# DOCUMENT RESUME

ED 044 466 UD 011 036

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|---|---|
| AUTHOR | Andrew, Dean C.; Roberts, Lawrence H. |
| TITLE | Final Evaluation Report on the Texarkana Dropout Prevention Program. |
| INSTITUTION | Education Service Center Region 8, Magnolia, Ark. |
| PUB DATE | 20 Jul 70 |
| NOTE | 118p. |
| EDRS PRICE | EDRS Price MF-$0.50 HC Not Available from EDRS. |
| DESCRIPTORS | Compensatory Education, *Contracts, *Dropout Prevention, Dropout Problems, Dropouts, High Schools, Instructional Media, Junior High Schools, *Learning Difficulties, Performance Criteria, Performance Specifications, *Program Evaluation, *Remedial Instruction, Remedial Programs |
| IDENTIFIERS | Arkansas, Texas |

ABSTRACT

The Texarkana Dropout Prevention Program is an educational innovation in which (1) a private company was placed under contract to set up special, remedial instruction in the public schools, and (2) the company was to be paid according to the results produced under a performance contract. Dorsett Educational Systems operated six rapid learning centers, providing instruction for students identified as potential dropouts. The students participated in two class periods each day at the center, which were individualized with a multimedia approach using audio-visual machines, programmed materials, and behavioral management techniques. It was held impossible to evaluate whether the participating students improved in verbal and mathematical skills, according to standardized tests, because the teaching of test items, or whether closely related test items in the program invalidated test results as measure of achievement. Other side benefits of the program did not seem great. Also, the success of the performance project idea was limited, given the design of this program. Suggestions for future similar experiments are given. [Not available in hard copy due to the marginal legibility of parts of the original document.] (Author/JW)

ED0 44466

# FINAL EVALUATION REPORT
# ON THE TEXARKANA DROPOUT
# PREVENTION PROGRAM

JULY 20, 1970

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UD011036

By

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Region VIII Education Service Center

Magnolia, Arkansas

July 20, 1970

# TABLE OF CONTENTS

Page

TABLE OF CONTENTS . . . . . . . . . . . . . . . . . . . . . . . . . . 1

I. PROGRAM DESCRIPTION. . . . . . . . . . . . . . . . . . . . . . . 2

  A. Background Information . . . . . . . . . . . . . . . . . . . 2

  B. Identification and Description of Variables. . . . . . . . . 2

  C. Program Objectives . . . . . . . . . . . . . . . . . . . . . 11

II. EVALUATION PROCEDURES. . . . . . . . . . . . . . . . . . . . . 13

  A. Introduction . . . . . . . . . . . . . . . . . . . . . . . . 13

  B. Target Population for the Dropout Prevention Program . . . . 14

  C. Evaluation Design. . . . . . . . . . . . . . . . . . . . . . 16

III. PROCESS EVALUATION RESULTS . . . . . . . . . . . . . . . . . . 32

  A. Discrepancies Between Planned and Implemented Events . . . . 32

  B. Identified Problems Through Monitoring . . . . . . . . . . . 33

  C. Evaluation Information Concerning "Teaching Test Items". . . 39

IV. PRODUCT EVALUATION RESULTS . . . . . . . . . . . . . . . . . . 72

V. RECOMMENDATIONS. . . . . . . . . . . . . . . . . . . . . . . . . 97

APPENDIX

July 20, 1970

## I. PROGRAM DESCRIPTION

### A. Background Information

In December, 1968, a discussion was held between Charles Blaschke, Manager of Educational Systems, Incorporated, and Dr. Joseph Hart, Staff Consultant of the Institute for Politics and Planning, with school superintendents of Texarkana, Arkansas; Texarkana, Texas; and Liberty Eylau, Texas, School Districts. The discussion revolved around the need for a dropout prevention program and a conceptual approach for such a program. Based on a discussion of the conceptual approach and its apparent feasibility in solving local dropout problems, the school districts jointly drafted a planning grant proposal under Title VIII, ESEA. A planning grant was approved. From January to May, 1969, an extensive planning study was conducted. From this study an operational proposal was submitted and approved. The grant applied to Texarkana, Arkansas, and Liberty Eylau, Texas, School Districts.

The Texarkana Dropout Prevention Program is a unique educational innovation in which (1) a private company was placed under contract to do a special instructional job in the public schools, and (2) the private company was to be paid according to the results produced under a performance contract. The concept of accountability for results is the basic principle of this venture.

The overall plan consisted of Dorsett Educational Systems, Incorporated of Norman, Oklahoma, operating six rapid learning centers and providing instruction for students who had been identified as potential dropouts. The students participated in two class periods each day in the rapid learning centers. Some of the students were in the program two consecutive hours while other students' attendance was interspersed throughout the day. The students in the rapid learning center group spent the remainder of their daily schedule (four class periods) in regular classes. The rapid learning center program was entirely individualized with a multimedia approach using audio-visual machines, programmed materials, and behavioral management techniques. The operation of the Texarkana Dropout Prevention Program officially started on November 3, 1969, although two learning centers did not open until early in January, 1970.

## B. Identification and Description of Variables in the Program

### 1. Institutional Variables

a. Students. The students involved in the program were students in grades 7-12 in the participating school districts who were potential dropouts. The specific population were those students who were two or more grade levels deficient in reading and mathematics as indicated by standardized test scores.

The program was designed so that students could be placed in the rapid learning centers and instructed. After a period of time, students could be tested to determine the effects of instruction. If sufficient achievement gain had been made by the students, they could be exited out of the special program back into the school districts' regular classes. Other students from this target population were then selected to take the places of the exited students.

The initial group of 219 students was composed of one-third volunteers, one-third selected by counselors, teachers, or principals, and one-third randomly selected. Students starting in the program consisted of 129 males and 90 females. The ethnic distribution shows there were 126 white and 93 non-white students in the group that started the rapid learning center program.

The students came primarily from families of the lower socio-economic levels. The parents of the majority of the students were unskilled workers in industry and business.

By the end of the school year 351 students had been included in the program. The composition of all the rapid learning center students is shown in TABLE 1. on the following page.

Table 1. THE COMPOSITION OF ALL THE STUDENTS ENROLLED IN THE RAPID LEARNING CENTERS DURING THE 1969-70 SCHOOL YEAR

| RAPID LEARNING CENTER | SEX | | | RACE | | |
|---|---|---|---|---|---|---|
| | BOYS | GIRLS | TOTAL | WHITE | NEGRO | TOTAL |
| ARKANSAS SENIOR HIGH SCHOOL | 39 | 15 | 54 | 28 | 26 | 54 |
| COLLEGE HILL JUNIOR HIGH SCHOOL | 44 | 31 | 75 | 61 | 14 | 75 |
| JEFFERSON AVENUE JUNIOR HIGH SCHOOL | 50 | 28 | 78 | 59 | 19 | 78 |
| LIBERTY EYLAU JUNIOR HIGH SCHOOL | 23 | 18 | 41 | 24 | 17 | 41 |
| LIBERTY EYLAU SENIOR HIGH SCHOOL | 26 | 29 | 55 | 31 | 24 | 55 |
| WASHINGTON JUNIOR HIGH SCHOOL | 26 | 22 | 48 | 0 | 48 | 48 |
| TOTAL: | 208 | 143 | 351 | 203 | 148 | 351 |

b. School Staff (Teachers): There was one teacher in each rapid learning center. The teachers were chosen jointly by the school district and the contracting industrial company with the school district having final approval. The title of the teacher was "rapid learning center manager." The teachers were college graduates but not all had their teaching certificates. Four of the teachers were male and two were female. The ethnic distribution of the teachers showed four white and two non-white. Some of the teachers had teaching experience while others were recent college graduates.

c. School Staff (Aides): There was one aide in each rapid learning center. The aides were chosen jointly by the participating school districts and the contracting industrial company from work applications. The title of the aide was "teaching assistant." Five of the aides were female and one was male. The ethnic distribution of the aides was four whites and one non-white.

d. School Staff (Project Director): The project director was a white male with several years' teaching and administrative experience. He held the M.S. degree and had completed all course work for the doctorate. He was responsible to an executive committee which consisted of the superintendents of the participating school districts. The project director viewed his role as a principal of the six learning centers.

e. Management Support: A planning specialist was available to help implement the program. He helped select the contractor and assisted in a consultative role. He was responsible to the project director.

f. Resident Director: The contract for conducting the program was awarded to Dorsett Educational Systems, Incorporated, of Norman, Oklahoma. The resident director of the program was the vice-president of this company. He was a full-time person and was in charge of the contract company's operation. He was a college graduate in engineering. He was responsible for correlating the activities of the rapid learning center program.

g. Instructional Consultants: A number of instructional consultants were available to assist the resident director in implementing the program. They conducted in-service training for the teachers and the aides and helped in developing appropriate curriculum materials for the program. They were highly skilled personnel in areas of education, research, and community relations.

h. In-Service Cadre: The in-service cadre was a group of teachers in the school system who received special training in the operation of the rapid learning center. There were 32 persons in this group and the purpose of the cadre was to assist in implementing the program into the regular school program during the second year of operation. There were 18 females and 14 males in the group. These teachers were reimbursed for their participation as they met at regular intervals.

i. Internal Evaluator: An internal evaluator was employed to conduct the evaluation of the project. The internal evaluator was a staff member of the Region VIII Educational Service Center, a Title III, ESEA program located at Magnolia, Arkansas. The internal evaluator held the Ph.D. degree and possessed considerable experience in teaching, research, and administrative activities.

j. External Auditor: A contract was awarded to the EPIC Evaluation Center of Tucson, Arizona, to audit the evaluation.

k. Community: The program was implemented in Texarkana, Arkansas, and the Liberty Eylau, Texas, School Districts. Texarkana, Arkansas, is a city of approximately 23,000, while Liberty Eylau is an independent school district located within the city limits of Texarkana, Texas. The Liberty Eylau School District has an enrollment of approximately 2,600 students.

2. Instructional Variables:

a. Organization: The rapid learning center was a non-graded class in which the student participated two hours per day. The classes consisted of low-achieving students with a teacher-student ratio of about one to twelve. In addition, the teacher had an aide to assist him.

b. Content: The content of the program included reading and mathematics.

c. Methodology: The rapid learning center program utilized the self-pacing method with a multimedia approach, using audio-visual machines, programmed materials, and behavioral management techniques.

d. Facilities: The classrooms for the rapid learning center program consisted of four mobile units and two refurbished classrooms. These classrooms were pleasingly decorated, had carpets on the floors, and contained new furniture and a recreational area. The physical environment was excellent.

An audio-visual machine was the primary equipment used. This machine correlated record and filmstrip curriculum materials in the teaching process. In addition, programmed materials were used.

Rewards were used to motivate and reinforce student behavior. Green stamps, recreational time, records, puzzles, and games were some of the types of rewards used.

e. Costs: See budget on following page.

July 20, 1970

## TEXARKANA DROPOUT PREVENTION PROGRAM EXPENDITURE ACCOUNT
January 8, 1970

| EXPENSE CLASS | Name and Title Purpose or Item | Project time Full | Part | Budgeted Amount |
|---|---|---|---|---|
| NO. 100: | | | | |
| A. Salaries | | | | |
| 1. Professional | Project Manager | X | | $ 10,300.00 |
| 2. Non-Professional | Executive Secretary | | | |
| | Admin. Assistant | X | | 2,700.00 |
| B. Fiscal Support | | | X | 1,000.00 |
| Attorney Fee | | | X | 300.00 |
| NO. 200: | | | | |
| A. Management Support | | | X | 13,500.00 |
| B. Educational Audit | | | X | 5,400.00 |
| C. Internal Evaluation | | | X | 11,500.00 |
| D. In-Service Education | | | | 9,000.00 |
| E. Dorsett Reading | | | | 60,000.00 |
| F. Dorsett Math | | | | 60,000.00 |
| G. Materials and Supplies | | | | 5,200.00 |
| H. Office Supplies | | | | 1,000.00 |
| I. Postage | | | | 600.00 |
| J. Video Tapes | | | | 300.00 |
| K. Film and Publicity | | | | 320.00 |
| L. Tests | | | | 700.00 |
| M. Travel | | | | 4,300.00 |
| N. Telephone | | | | 1,500.00 |
| O. Instructional Supplies | | | | 17,000.00 |
| NO. 300: | | | | |
| Attendance | Attendance Officer | | | 100.00 |
| NO. 400: | | | | |
| Health Service | | | | 100.00 |
| NO. 500: | | | | |
| Transportation | Bus | | | 5,400.00 |
| | Bus Driver Salary | | | 400.00 |
| | Bus Operation | | | 300.00 |
| NO. 600: | | | | |
| Operation Account | Janitorial Service | | | 500.00 |
| | Janitor Supplies | | | 200.00 |
| | Utilities | | | 1,000.00 |
| NO. 700: | | | | |
| Maintenance & Supplies | | | | 1,000.00 |
| NO. 800: | | | | |
| Fixed Charges | Social Security | | | 80.00 |
| | State Retirement 7.7 | | | 1,000.00 |
| | State Retirement 5.0 | | | 150.00 |
| NO. 900: | | | | |
| Food Services | | | | 100.00 |
| NO. 1000: | | | | |
| Textbook Services | | | | 100.00 |
| NO. 1100: | | | | |
| Community Service | | | | 100.00 |
| NO. 1200: | | | | |
| Equipment | | | | 29,000.00 |
| NO. 1230 | | | | |
| Refurbishing | | | | 12,000.00 |
| | Trailer Rental and Installation | | | 4,000.00 |
| TOTAL: | | | | $260,150.00 |

3. Behavioral Variables

A number of behavioral variables were measured in the program. The following variables were assessed:

a. Student knowledge in mathematics and reading.

b. Student knowledge about effective study habits.

c. Student knowledge about the world of work.

d. Student application of pronunciation skills.

e. Student application of good grooming habits.

f. Administrator knowledge of the feasibility of the program for operation in the regular school system.

g. Positive response to the program by students, teachers, and parents.

C. Program Objectives

1. The student in the rapid learning center program will display an increased vocabulary, reading comprehension, and arithmetic knowledge as indicated by scores on the Iowa Tests of Basic Skills or the Science Research Associates Achievement Tests.

2. The students in the rapid learning center program will display an increased knowledge of study skills as indicated by scores on the Science Research Associates Study Habits Checklist.

3. The students in the rapid learning center program will demonstrate increased application of pronunciation skills as indicated by scores on the Photo Articulation Test.

4. The students will display knowledge of the world of work by choosing at least one employment goal that is realistic and achievable as judged by the student's counselor.

5. The students will demonstrate an increased application of good grooming as indicated by an appearance checklist.
6. The students will respond positively to the rapid learning center program as indicated by: (1) a feedback questionnaire, (2) decrease in school absenteeism, (3) decrease in dropout frequency, and (4) improving grades in other classes.
7. The project director will display knowledge of the feasibility of a rapid learning center program for all students in the school system as indicated by: (1) feasible cost, (2) available space, (3) appropriateness of rapid learning center material, (4) acceptance by faculty and parents, and (5) permanency of student achievement gains.

July 20, 1970

## II. EVALUATION PROCEDURES

### A. Introduction

The operation of the Texarkana Dropout Prevention Program officially started on November 3, 1969, with four of the rapid learning centers starting. The other two started early in January, 1970. The internal evaluators were employed after the start of the project and held their initial meeting with the project director on November 13, 1969. The internal evaluators were not involved in the initial planning; and thus, procedures, information, and design had to be developed, "after the fact." To further complicate the evaluation process, the internal evaluators did not have access until January 13, 1970, to the original proposal which had been submitted for the Title VIII, ESEA grant. Due to this fact, the internal evaluators took the Dorsett Company's proposal and wrote behavioral objectives based on what the company said they would accomplish. The evaluation design was based on these objectives. After the objectives were written, the official contract with Dorset was finalized. The contract did not require Dorsett to do some of the tasks that were written in their proposal, such as development of study habits, improvement of speech, improvement of grooming practices, etc. In a conference involving the internal evaluators, the project director, and representatives of the U. S. Office of Education held on January 13, 1970, the project director was requested by the representatives of the U. S. Office of Education to revise the original proposal to more correctly reflect what was being done on the program. This revised proposal was submitted in late February, some four months after the start of the project and three months after the evaluation program was implemented. The revised proposal contained some performance objectives which were not entirely consistent with the evaluation design objectives. In a telephone conversation between Mr. Lewis Walker of the U.S. Office of Education and the project director, it was agreed that the evaluation objectives be used as the objectives of the current (1969-70) operational program, and that the objectives in the revised proposal be used as the starting base for the development of the evaluation design for the 1970-71 continuation grant.

## B. Target Population for the Dropout Prevention Program

The target population for the Dropout Prevention Program consisted of those students in grades 7-12 in the Texarkana, Arkansas, and Liberty Eylau, Texas, School Districts who had been identified as potential dropouts. Potential dropouts were described as having the following characteristics: highly deficient in mathematics and reading, two to three grade levels below in achievement in all areas, highly deficient in work-study and communication skills, failing mathematics or English, low in motivation and job aspiration, from a low income family, from a poorly educated family, and achieving below potential. For the purpose of evaluation, the specific target population are those students who were two or more grade levels deficient in reading and mathematics as indicated by their test scores on the Iowa Tests of Basic Skills or the Science Research Associates Achievement Tests.

The following outline presents information concerning how the target population were selected. It should be keptin mind that the internal evaluators had to use the available test data as the program was in operation when they became involved in the program.

1. Liberty Eylau School District
    a. Used SRA Achievement Tests given Fall, 1968,1969, Spring, 1969
    b. All students who met the following criteria were placed in the target population:
        (1) 17th percentile and below on total arithmetic
        (2) 28th percentile and below on reading comprehension
        (3) 25th percentile and below on reading vocabulary
        (4) All Negro students in the seventh grade who transferred from Macedonia and Grandview Elementary Schools. (No test scores were available on these students.)
2. Texarkana School District
    a. Used Iowa Tests of Basic Skills given October, 1969
    b. All students who met the following criteria were placed in the target population:
        (1) Below 25th percentile on vocabulary
        (2) Below 25th percentile on reading
        (3) Below 25th percentile on total arithmetic

July 20, 1970

## C. Evaluation Design

### 1. Product Evaluation Design

The basic evaluation design selected by the internal evaluators was the pretest-post test control group design. This design seemed to be the most valid one to select since the project was in operation, students had been selected to enter the rapid learning centers, and pretest data were available on the students.* This design also possessed desirable characteristics of internal validity.** To apply this evaluation design, it was necessary to identify the students from the target population going into the rapid learning center as well as selecting an equated group of students from the target population who were not engaged in the rapid learning center program. The instructional program was so designed that students going into the rapid learning center program could be graduated from it and returned to their regular classes after 40 or more hours of instruction, providing their achievement tests scores warranted such a move. Persons exited from the program would then be replaced by another group of students from the target population. Thus, the pool of students identified for the rapid learning center program or the equated group was fluctuating all the time because of the nature of the program.

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* Pretest data were available from the school systems' testing programs, but all test data were not given at the same time.

** See ratings of evaluation designs by Campbell, Donald T., and Stanley, Julian C., in Handbook of Research on Teaching, American Educational Research Association, Edited by W. L. Gage, Rand McNally and Company, page 178.

Wherever comparative group data are presented in the evaluation analysis, the data were gathered from a group of students who had rapid learning center experiences and from a group that had no such experiences. The two groups were equated on five factors: (1) no significant difference on their pretest scores on the vocabulary, reading comprehension, and arithmetic tests, (2) attending classes in the same school, (3) race, (4) sex, and (5) grade level.

### a. Rapid Learning Center Students

The students selected to enter the rapid learning center program were supposed to come from the target population. However, the selection for the initial group was based on: (1) one-third volunteers, (2) one-third assigned by the counselors or teachers, and (3) one-third randomly selected from the low-achieving students. The method of selection did not insure that students would come from target population as a number were placed in the program who had taken no tests, and others were placed in the program because the teacher or counselor felt they needed it. The composition of those students initially entering the rapid learning center program is given on the following page.

July 20, 1970

| School and Grade | Number in Rapid Learning Center | | | Total |
|---|---|---|---|---|
| | Meeting Target Population Criteria | Not Meeting Target Population Criteria | With No Test Scores Available | |
| **LIBERTY EYLAU SCHOOL DISTRICT** | | | | |
| Junior High School | | | | |
| Grade 7 | 9 | 1 | 3 | 13 |
| Grade 8 | 12 | 0 | 2 | 14 |
| Grade 9 | 15 | 11 | 13 | 39 |
| Senior High School | | | | |
| Grade 10 | 0 | 0 | 4 | 4 |
| Grade 11 | 0 | 0 | 0 | 0 |
| Grade 12 | 0 | 0 | 0 | 0 |
| **TEXARKANA SCHOOL DISTRICT** | | | | |
| College Hill Junior High School | | | | |
| Grade 7 | 3 | 4 | 0 | 7 |
| Grade 8 | 4 | 3 | 2 | 9 |
| Grade 9 | 15 | 9 | 2 | 26 |
| Jefferson Junior High School | | | | |
| Grade 7 | 2 | 2 | 0 | 4 |
| Grade 8 | 4 | 5 | 0 | 9 |
| Grade 9 | 15 | 21 | 5 | 41 |
| Washington Junior High School | | | | |
| Grade 7 | 0 | 0 | 0 | 0 |
| Grade 8 | 0 | 0 | 0 | 0 |
| Grade 9 | 25 | 0 | 0 | 25 |
| Arkansas Senior High School | | | | |
| Grade 10 | 21 | 1 | 6 | 28 |
| Grade 11 | 0 | 0 | 0 | 0 |
| Grade 12 | 0 | 0 | 0 | 0 |

b. Equated Non-Rapid Learning Center Students

The project allowed for new students to be placed in the rapid learning center program during the school year. Students entering the program during the school year were to be selected from the target population and could be students initially identified as equated non-rapid learning center students. For this reason, the initial non-rapid learning center group selected needed to be considerably larger than the initial number in the rapid learning center program. In all cases this was not possible because a disproportionate number had already entered the program from a particular grade and a particular school before the internal evaluators came on the scene. Because of this fact only a limited number of students remained in some grades at some schools to be used in the equated non-rapid learning center group. The following outline presents information concerning how the non-rapid learning center group was selected and the composition of this group.

(1) Basis for selecting the equated non-rapid learning center students from target population

(a) Basic assumptions:

The number needed in this equated group was a judgment on the part of the evaluators based on:

(1) anticipated additions to the rapid learning center program,

(2) The assumption that some would be dropping out of school.

Because of the above two assumptions, the number in the non-rapid learning center group, whenever possible, was always larger than the number of students in the initial rapid learning center program.

(b) Method of Selection

(1) After the number in the non-rapid learning center group was decided, all the students in the target population were alphabetized by schools and grades.

(2) From the target population, the equated non-rapid learning center group was selected, using the following procedure:

a) Liberty Eylau School District

... Grade 7 - every third student from target population not in rapid learning center program.

... Grade 8 - all students from target population not in rapid learning center program

... Grade 9 - all students from target population not in rapid learning center program.

... Since no tests scores were available for Grade 10, an equated non-rapid learning center group was not selected. There

. . were only four initial students in the rapid learning center program from this grade level.

b) Texarkana School District

... College Hill Junior High School - all students from target population not in rapid learning center program.

... Jefferson Junior High School - all students from target population not in rapid learning center program.

... Washington Junior High School -

Grade 7 - every third student from target population not in rapid learning center program.

Grade 8 - every second student from target population not in rapid learning center program.

Grade 9 - Every second student from target population not in rapid learning center program.

... Arkansas Senior High School - every fourth student from target population not in rapid learning center program.

(2) Composition of students in the Equated Non-Rapid Learning Center Group

(a) Liberty Eylau School District

1) Junior High School

a) Grade 7 - 25 students
b) Grade 8 - 25 students
c) Grade 9 - 14 students

2) Senior High School

a) Grade 10 - 0 students
b) Grade 11 - 0 students
c) Grade 12 - 0 students

(b) Texarkana School District

1) College Hill Junior High School

a) Grade 7 - 19 students
b) Grade 8 - 19 students
c) Grade 9 - 16 students

2) Jefferson Junior High School

a) Grade 7 - 24 students
b) Grade 8 - 16 students
c) Grade 9 - 14 students

3) Washington Junior High School

a) Grade 7 - 28 students
b) Grade 8 - 21 students
c) Grade 9 - 30 students

4) Arkansas Senior High School

a) Grade 10 - 28 students
b) Grade 11 - 0 students
c) Grade 12 - 0 students

## 2. Process Evaluation Design

The methods used by the internal evaluators to accomplish process evaluation were: (a) establishment of a monitoring system and (b) development of a calendar of events.

### a. Monitoring System

The monitoring system included procedures to obtain information on the implemented program. The purpose of monitoring was to determine if the operational program was the same as the planned program and to identify problem areas in the process of implementation. To assist in the monitoring process, several techniques were used, including: (1) observation, (2) contact report, (3) weekly reports on students, and (4) monthly reports from the resident director.

(1) Observation: To assist the evaluators in identifying variables to monitor, the following chart was used. After each observation a contact report was written containing information concerning the purpose of the contact, a summary of what was observed and what took place, and any decisions made from the contact.

July 20, 1970

MONITORING CHART

OBJECTIVE NO.(s): All TIME INVERVAL: Bi-Weekly

| | | INSTRUCTIONAL VARIABLE | | | |
|---|---|---|---|---|---|
| | | ORGANIZATION | CONTENT | METHOD | FACILITIES |
| INSTITUTIONAL VARIABLE | STUDENT | Non-Graded<br>Team Teaching<br>Manager-Aide<br>2-55 minutes periods | Vocabulary | | |
| | TEACHER | | | Self-pacing<br>Filmstrips<br>contracts,<br>records,<br>programmed materials,<br>rewards,<br>testing,<br>homework | Audio-Visual Machines<br>Learning Center |
| | ADMINISTRATOR (Resident Director) | | | In-Service Training | |
| | CONSULTANTS | | | In-Service Training | |
| | FAMILY | | | | |
| | COMMUNITY | | | | |

(2) Reports: To assist the evaluators in the monitoring process various reports were requested. The rapid learning center teachers were requested to complete weekly reports on students to provide information that the planned instructional program was being followed, as well as providing data to be analyzed in the evaluation.

Monthly reports were requested from Dorsett's resident director and the project director. Information from these reports provided information concerning the program, changes in program, and articulation activities. The resident director submitted only one report while the project director submitted all of his reports.

A monthly maintenance report was requested from the resident director, beginning with the month of January. The purpose was to obtain information concerning operational problems with equipment from which time and cost analysis could be summarized. No maintenance reports were received.

b. Calendar of Events

A calendar of events was developed along with the evaluation design. This calendar did not include all activities for the entire project, but only a skeleton calendar primarily related to the evaluation. It would have been desirable to have a calendar of events for all tasks involved with the program. The calendar of events follows:

July 20, 1970

CALENDAR OF EVENTS

| EVENT | DATE PLANNED | PERSON RESPONSIBLE | DATE COMPLETED |
|---|---|---|---|
| 1. Selection of Staff | 10/1/69 | Project Director and Resident Director | 10/1/69 |
| 2. Orientation of Staff | 10/8/69 | Dorsett Company | 11/7/69 |
| 3. Selection of Students | 10/8/69 (First group) | Project Director and School Personnel | 10/10/69 |
| 4. Achievement Pretests administered:<br><br><br>Iowa Tests<br>SRA Tests | 10/1/69<br>Fall, 1968<br>Spring, 1969<br>10/1/69 | Project Director<br>Project Director | 10/1/69<br>10/1/69 |
| 5. Instruction begun | 10/15/69 | RLC Managers and Paraprofessionals | 11/3/69<br>(4 centers)<br>1/5/69<br>(2 centers) |
| 6. In-Service Training of Instructional Staff: | | | |
| Session #1 | 11/4,5/69 | Polo C'de Boca | 11/4,5/69 |
| Session #2 | 11/5,7/69 | Dr. James Evans and Janet Harwood | 11/5,7/69 |
| Session #3 | 11/6,7/69 | Howard Lesnick | 11/6,7/69 |
| Session #4 | 11/14/69 | W. G. Teachey | 11/14/69 |
| Session #5 | 11/17,18/69 | Rosella Scott | 11/17,18/69 |
| Session #6 | 11/28/69 | Lloyd G. Dorsett | 11/28/69 |
| 7. Study Habits - Pretests Administered | 12/8,12/69<br>1/5,9/70 | Project Director | 12/12/69<br>(4 centers completed)<br>1/9/70<br>(2 centers completed) |

July 20, 1970

## CALENDAR OF EVENTS

| EVENT | DATE PLANNED | PERSON RESPONSIBLE | DATE COMPLETED |
|---|---|---|---|
| 8. Articulation pretest administered | 12/8,12/69<br>1/5,9/70 | Speech Therapist | 12/12/69<br>(4 centers completed)<br>1/9/70<br>(2 centers completed) |
| 9. Orientation session for Cadre of 20 Teachers | 1/15/70 | Project Director | 1/20/70 |
| 10. Submit Evaluation Design for 1969/1970 Project | 1/22/70 | Internal Evaluators | 1/22/70 |
| 11. Grooming Pretest | 1/26,30/70 | Homeroom Teachers | 3/1/70<br>(4 RLC groups and 3 Non-RLC groups completed) |
| 12. Achievement Post Test administered | 1/30/70 | Project Director | 2/2/70<br>(First Group) |
| 13. Student Questionnaire Administered | 1/30/70 | Project Director | 2/2/70<br>(First Group) |
| 14. Orientation Session for Cadre of 20 Teachers | 2/5/70 | Project Director | 2/9/70 |
| 15. Orientation Session for RLC Parents | 2/22/70 | Project Director and Resident Director | 2/22/70 |

CALENDAR OF EVENTS

| EVENTS | DATE PLANNED | PERSON RESPONSIBLE | DATE COMPLETED |
|---|---|---|---|
| 16. Cadre of 20 Teachers Review and Evaluate Curriculum Materials | 2/26/70 | Project Director | 2/23/70 |
| 17. Cadre of 20 Teachers Review and Evaluate Curriculum Materials | 3/5/70 | Project Director | 3/9/70 |
| 18. Submit Evaluation Design for Continuation Project | 3/15/70 | Internal Evaluators | 4/1/70 |
| 19. Submit Available Evaluation Evidence of 1969/70 Project | 3/15/70 | Internal Evaluators | 4/1/70 |
| 20. Achievement Post Test Administered | 3/20/70 | Project Director | 3/2/70 (Second Group) |
| 21. Student Questionnaire Administered | 3/20/70 | Project Director | 3/2/70 (Second Group) |
| 22. Cadre of 20 Teachers Review and Evaluate Curriculum Materials | 3/24/70 | Project Director | Not Done |
| 23. Orientation Sessions for all Teachers on RLC Activities | February through April, 1970 | Project Director | See Schedule for Elementary Teachers |
| 24. Cadre of 20 Teachers Operate Learning Centers for Parents | 4/11/70 | Project Director | Not Done |

## CALENDAR OF EVENTS

| EVENTS | DATE PLANNED | PERSON RESPONSIBLE | DATE COMPLETED |
|---|---|---|---|
| 25. Cadre of 20 Teachers Operate Learning Center for Parents | 4/18/70 | Project Director | Not Done |
| 26. Study Habits Post Administered | 5/4,8/70 | Project Director | May 1-15, 1970 |
| 27. Articulation Post Test Administered | 5/4,8/70 | Project Director | May 4-8, 1970 |
| 28. Employment Goal Identified | 5/4,8/70 | Project Director | 2/2/70<br>(First Group)<br>3/2/70<br>(Second Group) |
| 29. Grooming Post Test Administered | 5/11,15/70 | Project Director | Not Done |
| 30. Achievement Post Test Administered | 5/21/70 | Project Director | 4/6/70<br>(Third Group)<br>5/22/70<br>(Fourth Group) |
| 31. Student Questionnaire Administered | 5/21/70 | Project Director | 4/6/70<br>(Third Group)<br>5/22/70<br>(Fourth Group) |
| 32. Student Questionnaire Administered | 5/18,22/70 | Project Director | 5/22/70 |
| 33. Parent Questionnaire Administered | 5/18,22/70 | Project Director | May 1-20,1970 |
| 34. Teacher Questionnaire Administered | 5/18,22/70 | Project Director | 3/9,20/70 |

July 20, 1970

CALENDAR OF EVENTS

| EVENTS | DATE PLANNED | PERSON RESPONSIBLE | DATE COMPLETED |
|---|---|---|---|
| 35. Information from School Records Collected (Information gathered on First and Second Group of Students Taking Post Test) | 6/1/70 | Project Director | 3/15/70 |
| 36. Employment Goals of Students Analyzed | 6/15/70 | Counselors | Not Done on Last Two Groups |
| 37. Student Questionnaire Analyzed | 6/30/70 | Internal Evaluators | 3/15/70 (for Students taking Tests on Feb. 2 and March 2)<br>6/15/70 (Pre and Post on RLC Students) |
| 38. Parent Questionnaire Analyzed | 6/30/70 | Internal Evaluators | 5/30/70 |
| 39. Teacher Questionnaire Analyzed | 6/30/70 | Internal Evaluators | 3/15/70 |
| 40. School Record Information Analyzed | 6/30/70 | Internal Evaluators | 3/10/70 (Preliminary Report) |
| 41. Analysis of Facilities | 6/1/70 | Internal Evaluators | |
| 42. Analysis of Cost Data | 8/1/70 | Internal Evaluators | |
| 43. Submit Evaluation Report on 1969-70 Project | 8/15/70 | Internal Evaluators | |
| 44. Permanency Tests Administered | 10/12,16/70 | Project Director | |
| 45. Submit Addendum to 1969-70 Evaluation Report | 11/15/70 | Internal Evaluators | |

July 20 1970

# ALL ELEMENTARY TEACHERS

## RAPID LEARNING CENTER

## IN-SERVICE EDUCATION SCHEDULE

| Date | | Carver | | Central | | College Hill Elementary | | Fairview | | Kilpatrick | | Union | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Name | C | Name | C | Name | C | Name | C | Name | C | Name | C |
| Feb. | 9 | Bazil | 1 | Babcock | 2 | Caldwell | 3 | Boyd | 4 | Benson | 1 | Butler | 2 |
| | 10 | Bedford | 2 | Bell | 3 | Carr | 4 | Berryman | 1 | Bryant | 2 | Cobb | 3 |
| | 11 | Bratton | 3 | Brannan | 4 | Davis | 1 | Cook | 2 | Buchanan | 3 | Crouch | 1 |
| | 12 | Brown | 4 | DeVanie | 1 | Freeman | 2 | Gentz | 3 | Carrigan | 1 | Culberson | 2 |
| | 13 | Fleeks | 1 | Green | 2 | Hester | 3 | Harkey | 4 | Deweese | 2 | Gray | 3 |
| | 16 | Harper | 2 | Gwartney | 3 | Hinton | 4 | Hunt | 1 | Gunnals | 3 | Higginbotham | 1 |
| | 17 | Johnson | 3 | Howard | 4 | Jones | 1 | McDonald | 2 | Humphrey | 1 | Howard | 2 |
| | 18 | Lee | 4 | Martin | 1 | Jordan | 2 | Pierce | 3 | Jones | 2 | Jennings | 3 |
| | 19 | Marlar | 1 | Payne | 2 | Moraland | 3 | Pope | 4 | Johnson | 3 | Mabrey | 1 |
| | 20 | Mitchell | 2 | Peery | 3 | Nance | 4 | Purifoy | 1 | Kendreick | 1 | McBride | 2 |
| | 23 | Roberson | 3 | Reed | 4 | Normington | 1 | Railey | 2 | Lach | 2 | Miller | 3 |
| | 24 | Seedle | 4 | Tull | 1 | Norwood | 2 | Shaddox | 3 | Long | 3 | Presswood | 1 |
| | 25 | Shannon | 1 | Ward | 2 | Prather | 3 | Stanley | 4 | Lovell | 1 | Shoemaker | 2 |
| | 26 | Spears | 2 | Wilson | 3 | Richards | 4 | Smith | 1 | Maloney | 2 | Smith | 3 |
| | 27 | Stewart | 3 | | | Roberts | 1 | Tollett | 2 | Miner | 3 | Taylor | 4 |
| Mar. | 2 | Stuckey | 4 | | | Robertson | 2 | Williams | 3 | Nix | 1 | Wilson | 4 |
| | 3 | Thompson | 1 | | | Vickers | 3 | | | Pennington | 2 | Withers | 4 |
| | 4 | D. Watson | 2 | | | Wardlaw | 4 | | | Ryther | 3 | Wright | 1 |
| | 5 | J. Watson | 3 | | | | | | | Stoken | 1 | | |
| | 6 | Young | 4 | | | | | | | Wages | 2 | | |
| | 9 | | | | | | | | | Waldo | 3 | | |
| | 10 | | | | | | | | | Ward | 1 | | |
| | 11 | | | | | | | | | Watson | 2 | | |

Legend: 1 - Arkansas High Rapid Learning Center
2 - College Hill Rapid Learning Center
3 - Jefferson Avenue Rapid Learning Center
4 - Washington Rapid Learning Center
C - Centers

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July 20, 1970

## III. PROCESS EVALUATION RESULTS

### A. Discrepancies Between Planned and Implemented Events

The original proposal submitted by the Texarkana School District for a Title VIII, ESEA grant contained a time schedule for the planning phase but not the operational phase. The revised proposal submitted in late February, 1970, contained a time sequence flow chart. This time chart has been the implemented program up through February.

When the evaluation design was developed, a calendar of events was included. The reader is referred to the Evaluation Design section to note the calendar of events and the extent that it has been followed. From the information available up to the present time, the following significant discrepancies can be found:

1. The grooming pretest was not given on time and some are still not completed. The grooming post test checklist was not obtained. The project director was to give the checklist to the students' homeroom teachers for their ratings. The busy schedule of the teachers and project director was conducive to postponing this task. It appears that the selection of a sample of students to rate and a better follow-up program would bring better results in obtaining this information in the future.
2. The employment goals of the students were obtained at the time they took the post test. It was felt that this would provide better comparative data than waiting until the end of the school year.
3. The teacher questionnaire was administered earlier than anticipated in order to have some feedback by the time the

continuation proposal was due.

4. The parent questionnaire was administered earlier than anticipated to obtain feedback information that can assist in developing the turnkey component in next year's program.

5. The cadre of teachers did review curriculum materials but did not evaluate them on the form provided by the internal evaluator. The lack of time was the primary reason for their not doing this.

6. The cadre of teachers did not operate learning centers for parents. Again, lack of time was the reason that this was not done.

7. The student questionnaires were administered to the Rapid Learning Center students only during the May exit testing session. This was done because the interim audit report suggested making a comparison of a pre and post analysis of Rapid Learning Center students only.

8. The employment goals of students were not obtained on the groups of students taking the last two exit tests because (a) audit questioned validity of the criteria used for determining a suitable goal, and (b) the lack of time on the part of the counselor.

B. Identified Problems Through Monitoring

A number of problems arose during the operation of the project. Some of the problems were results of lack of planning; others were due to lack of guidelines; some were due to unclear understanding of roles and functions; some were due to slow negotiations in the contract; some were due to a reduction in funds; and others were unanticipated problems that occur when any new developmental program is initiated. The following list of problems was identified through the monitoring system.

1. The evaluation design was not adequately planned as the project proposal was being developed. As a result the rapid learning center program was in operation before an evaluation design was made.
2. While the criteria for the target population for the rapid learning center program were tentatively established, they were not specific enough for selecting students consistently, and a number of students were placed in the rapid learning center program who did not fulfill the criteria of the target population.
3. The method of selecting students for the rapid learning center program had been chosen, but guidelines and a record system had not been firmly established with counselors to see that methods were followed and that accurate data were available.
4. Pretest information was not available on all the students, and the date of the pretest information varied greatly for the students in the Liberty Eylau School District. Thus, it was difficult to hold consistent the period of time between the pre and post test for all rapid learning center and an equated group of non-rapid learning center students.
5. The contract with Dorsett Company was not finalized until sometime after the project was in operation and did not require the company to achieve all goals and objectives outlined in the Dorsett proposal.

6. Students could be placed in the rapid learning center program whenever space became available. New students could be chosen from the equated non-rapid learning center group. This made it impossible to select a permanent equated non-rapid learning center group.
7. The roles of the project director, resident director, internal evaluator, management support, and external auditor were not outlined sufficiently to determine who was responsible for what.
8. When exit tests were scheduled, Dorsett Company recommended the students to take such tests. Because the list was presented so late to the internal evaluator, and was often changed at the last moment, it was difficult to obtain a list of equated number of non-rapid learning center students in time for the exit tests. This made it hard for the project director to follow normal lines of communication and administrative procedures to get students out of class for testing.
9. There were no clear-cut guidelines concerning when a student would exit from the rapid learning center program and return to his regular classes. Thus, students might be in the program several days or weeks when he should have been out of the program. On one occasion several students were reported as exited from the program but were not.
10. Frequent exit testing caused a number of problems, i.e.:
    a. using the counselor a great deal of the time to do testing,
    b. making arrangements to get students in both rapid learning center program and in the equated non-rapid learning center

group out of class for testing.

c. loss of instructional time for testing,

d. getting testing list far enough in advance to adequately plan and arrange for testing,

e. difficulty in placing students into regular classes at an appropriate time.

11. Students in rapid learning center could take the exit test more than once. In addition, they might be given practice tests by Dorsett prior to exit tests. This made it difficult to determine whether increase in achievement was due to frequent testing and regression toward the mean or whether actual achievement occurred.

12. It was difficult to evaluate the cost of operating the rapid learning center program and to compare it with costs of the traditional program because of an inadequate accounting system. Dorsett did not have an adequate record system at the school district to keep accurate records of cost, and the school district's financial records were established on a function system rather than a program basis.

13. It was difficult to get an adequate description of the rapid learning center instructional program because many of Dorsett's plans and materials were in the developmental stage.

14. The school system does not have an adequate record system for determining dropouts. When exit tests were scheduled an equated non-rapid learning group of students was selected to be tested. It was not unusual to find that some of them had dropped out of school with no centralized office being notified.

It was also noted that students identified as dropouts were actually transfers.

15. There was a problem in determining the official opening date of the rapid learning center and when instructional time started for payment purposes. This was a problem because of renovations, delay in getting equipment, testing, etc. Differences of opinion arose concerning the interpretation of the contract on this problem.

16. Dorsett was not satisfied with the tests that were used to determine achievement. The contract allowed them to request re-testing or adjustment of entry level. This caused a number of problems with no one knowing who was to make a final decision.

17. Reports for monitoring purposes were requested of the resident director. Some reports were submitted, but many were not. Because of lack of reports some of the evaluation report will be incomplete.

18. The role of management support was unclear and caused some problems. From conversations and contact between management support and internal evaluator, there appeared to be over lapping functions, and both were seeking some of the same information. A memo in late February from management support outlined some tasks for internal evaluator, project manager, and external auditor. A question arose concerning the feasibility of the time schedule outlined and who was responsible for what, and to whom.

19. Intelligence was one of the criteria factors for admission to the rapid learning center program. Intelligence tests were

not available on all students, and thus, could not be included in equating the non-rapid learning students with the rapid learning center students.

20. When students took the post test more than one time, Dorsett wanted to count the student's highest score as the exit score for payment purposes. Discussion arose over this problem and its implications.

21. Dorsett used instructional consultants and other consultants in improving or conducting the program. The frequency and role of these consultants were to be reported in the resident director's monthly report. Only one such report was received; the assessment of the effects of this variable is not possible.

22. A problem arose in preparing the evaluation design for the continuation proposal. Management support agreed to provide the objectives to the internal evaluator. The objectives received were primarily product objectives. Questions arose concerning the stating of the objectives and the evaluation of process and management activities.

23. There needed to be more correlation between the school district's Title VIII program and those programs sponsored by Model Cities. It was not always clear which programs and which students should be included in the evaluation.

24. From the U. S. Office of Education on-site evaluation team's report, the Texarkana Dropout Prevention program was not comprehensive enough. Thus, the continuation proposal had to be rewritten and changed to encompass a more comprehensive program.

25. The problem of teaching for the test had always been discussed and during the last exit tests it was discovered that the contractor had been teaching test items. On additional analysis it was found that teaching test items had been done from the beginning of the program but with increasing frequency as the program developed. The next section devotes itself to this problem.

C. Evaluation Information Concerning "Teaching Test Items"

1. Events leading up to discovery that contractor was teaching for the tests -

During the last exit tests administered in late May, the Project Director and the executive administrative assistant helped administer the post tests. During the testing sessions, students remarked that they had seen the test questions. Upon further questioning of the students, they remarked that they had seen test questions on the instructional filmstrip. This information was given to the internal evaluators and an investigation was begun to check the validity of the students' statements. To verify the students' remarks, a number of instructional programs were reviewed and a number of the rapid learning center managers and their assistants were interviewed.

2. Information verifying that tests items were taught -

Upon interviews with some of the learning center managers and their assistants, it was learned that (a) instructional material did have test items and/or closely related test items, (b) progress checks (about tests used at the end of a lesson) did have test items or closely related test items, (c) laminated panels (review exercises on a laminated panel) did have test items or closely related test items.

A review of these materials by the internal evaluators and project director verified that test items or closely related test items were in the materials.

To further check the validity of test items being taught, the project director, executive administrative assistant, internal evaluators, and the fiscal agent met with Dorsett resident director to ask for clarification of practices used and to present him with the gathered information. The next day a meeting was held with Mr. Loyd G. Dorsett, president of Dorsett Educational Systems, Incorporated, to present him the information that had been discovered. Reports were written on these meetings. Statements concerning the chronology of events concerning the teaching of test items or closely related test items were recorded. These statements were later read to Mr. Dorsett for verification or correction. From these meetings, and from the review of instructional materials, and from interviews with rapid learning center managers and their assistants, there is no question that test items and/or closely related test items were taught. Attached copies of recorded statements of meetings as recorded in the internal evaluation contact reports, letters from the president of Dorsett Company and the resident director of Dorsett verify this statement.

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## CONTACT REPORT

PROGRAM NUMBER: 16 002 001

DISTRICT Texarkana

SCHOOL Dropout Prevention Program
D. C. Andrew

ESC Representative Larry Roberts

Requested X ESC Initiated

Letter

Telephone

Interview X

DATE OF CONTACT May 27, 1970

PERSONS CONTACTED Project Staff; Cary Byrd,
Marty Filogamo, Mary Lile, Becky Ussery,
Ed Trice from Project & Texarkana School Dist.
Dorsett Staff;
Lloyd Dorsett, C.J. Donnelly, Lewis Lemmond,
& Fred Smith of Dorsett Co.; Carey Byrd of
Turnkey, Inc.

### I. TYPE OF PROGRAM:

Evaluative X Developmental Workshop Tentative

### II. PURPOSE OF CONTACT:

1. To work on continuation proposal with Carey Byrd representing Charles Blaschke.
2. To meet with officials of Dorsett to inform them of the findings of teaching for the tests.

### III. SUMMARY OF WHAT HAPPENED:

In the morning we talked briefly with Carey Byrd about the problems encountered in writing the continuation proposal. These are (1) original proposal was not very well written or documented on needs assessment; (2) revised original proposal pertained only to the RLC and Turnkey program; (3) desire of USOE to have a more comprehensive program; and (4) difficult to revise continuation and present a coherent well-planned document; and we felt that it would be simpler to just write the entire document again; and (5) a short time schedule as it needed to be finished prior to June 10.

During the day we had at least three telephone calls from Lew Walker of the U. S. Office of Education. Lew was telling us to (1) get all the evidence assembled that verified that Dorsett was teaching the test and specify which instructional material correlated with each test, (2) to develop a chronology of events to see if it could be determined when teaching for the test started to occur and who was knowledgeable of this fact, (3) to get all of the inventory from the RLC program, both hardware and software, so that it would not be lost or taken away, (4) to make sure we had all invoices and financial records or OE would probably send an auditor, and (5) to consult with legal advice.

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In the afternoon we met with officials of the project staff, Supt. of Schools, and Dorsett officials. At this meeting Lloyd Dorsett, president of the Company, was told of our findings. Our interpretations of his statements are as follows:

1. In January, 1970 he instructed the head of his program development division, Mrs. Rosalie Scott, to develop instructional items that were closely related to test items but not verbatim items. It was suggested to her that some instructional items be similar to test items. Some specific vocabulary words were done at that time to Mr. Dorsett's knowledge and placed in instructional material prior to the first exit tests. Mr. Dorsett stated he was not aware at that time that reading comprehension items were placed in the instructional material.

2. Prior to the March 2 exit test, Mrs. Scott visited Texarkana and evidently gave instructions to RLC staff and resident director to drill students on certain instructional materials prior to exit tests. This information was given then and in subsequent exit tests through a memo or through oral communication to RLC staff containing a priority list of instructional materials to be used in the drill.

3. Mr. Dorsett became more aware around March 2 that Mrs. Scott had herself or had other personnel under her supervision develop some instructional items that were exit test items in all fields to be tested ie., vocabulary, reading comprehension, and mathematics. Mr. Dorsett also became aware that instructions to the RLC staff were being given to emphasize these programs with the students on these instructional items prior to exit test time. Mr. Donnelly, the resident director, was also aware of this as Mr. Dorsett discussed this with him.

4. Mr. Dorsett stated that when he became aware that reading comprehension test items were being written for instructional material, he requested them to be taken out and asked that vocabulary items be interspersed throughout all of the instructional program that the students used. For various reasons this was not done: and thus, many test items remained in a limited number of instructional lessons and could be used for drill prior to exit testing.

5. Mr. Dorsett stated that after Mrs. Scott visited Texarkana just prior to the March 2 exit tests, he informed her not to return to Texarkana any more. However, she did return on or about April 19, 1970. The RLC staff did receive a memo to emphasize certain instructional materials, through a priority list, at some time after her visit.

6. Mr. Dorsett indicated that shortly after Mrs. Scott's visit to Texarkana in April, she resigned as program director.

7. Mr. Dorsett did emphasize that the percentage of test items in the instructional material was a very small percentage of the total instructional material; and if it had been interspersed and not emphasized throughout all of the instructional programs, it would have probably had little effect on the test results. However, he did admit that it had not been interspersed and was limited to a number of instructional lessons.

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8. Mr. Dorsett stated he was aware that there were verbatim test items in the instructional material but was not aware the extent verbatim questions were involved. He had requested Mrs. Scott to replace these programs as soon as possible. However, Mrs. Scott and resident director continued to instruct RLC staff members to use test item lessons prior to April and May exit tests.

9. Mr. Trice told Mr. Dorsett rather emphatically that an evaluation of the findings would be made and reported to the U. S. Office of Education and that the findings would not be whitewashed.

## IV. DECISIONS MADE:

A. We will meet with Mr. Dorsett again on May 28, 1970.

B. We will preview filmstrips and identify what filmstrips have test items and from what form of the test.

lkc

## CONTACT REPORT

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PROGRAM NUMBER: 16 002 001

DISTRICT Texarkana

DATE OF CONTACT May 28 1970

SCHOOL Dropout Prevention Program

PERSONS CONTACTED Project Staff, Dorsett Staff, Supt. of Schools, Carey Byrd

ESC Representative Larry Roberts D. C. Andrew

Requested X ESC Initiated

Letter

Telephone

Interview

I. TYPE OF PROGRAM:

Evaluative X Developmental Workshop Tentative

II. PURPOSE OF CONTACT:

1. To meet with officials of Dorsett

2. To continue work on continuation proposal

III. SUMMARY OF WHAT HAPPENED:

A meeting was held with the Dorsett officials. Mr. Trice said that Mr. Dorsett had written a letter to him and Mr. Trice asked Mr. Dorsett to read the letter to the group. A copy of the letter is attached. Mr. Trice asked various ones around the table if there was any comment on the letter, and Mr. Usery said he accepted the letter; but on further questioning Mr. Trice emphasized that this letter was an acceptance of the view of the Company but should not be viewed as a defense or attempt to justify the teaching of the test.

Mr. Trice asked me questions concerning anything that the company might provide to help in making an adequate evaluation of the program. We discussed a number of things, and then Mr. Trice requested that I make a recommendation to the school district concerning the basis of payment or reimbursement by the Dorsett Company. I said I would do so if after consulting with the Office of Education concerning the matter it was in agreement with their plans. At that point Mr. Trice excused himself after requesting Dorsett officials to provide the evaluators with any information we desired.

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I then went over the items on my contact report of May 27, 1970 to confirm or correct the conference of that date and to develop an accurate chronology of events. A discussion was held on several points. The list of nine items on the 5-27-70 report was changed to meet any disagreement by Mr. Dorsett, and he stated at the end that the list as now written in the 5-28-70 contact report are correct. This then is a statement of the Company president concerning what happened and when it happened.

During the discussion Mr. Dorsett stated that vocabulary, reading comprehension, and math test items were developed in programs in this order. Vocabulary test items were developed prior to the first exit tests, reading comprehension test items prior to March 2 exit tests, and math test items prior to final exit tests.

Mr. Dorsett gave us a list of all programs that had been used in the Texarkana project with a checklist by those that contained test items. He also provided us with a list of accession numbers on programs with dates on all of them. Accession numbers are placed on programs as they are developed; thus, the dates reflect the time when programs for the Texarkana were being developed. According to Mr. Dorsett, it took approximately 15-30 days to get the program to Texarkana after the accession date.

We requested from Mr. Dorsett the following information which he has agreed to supply:

1. Need inventory list of all programs and equipment; inventory list of software material has already been provided.

2. Need all priority lists whether on paper or cards or by what means information was submitted to the ELC staff. These lists contain programs with test items that were extensively reviewed prior to exit tests.

3. Need data on all money payments to Dorsett. This should reflect the number of students for which they were paid on an hourly rate because they were outside the target population or did not fulfill the requirement of the target population.

At that point the meeting adjourned after Mr. Dorseet agreed to supply evaluators with any additional information they thought might be needed. Dorsett was specifically asked if any material had been returned to Norman, Oklahoma that was not now in Texarkana. He stated that he did not think there was any but if there was, he would send it down. The evaluator asked if Mrs. Scott was available for an interview, and Mr. Dorsett said she was. Mr. Dorsett's statement reflects that she was primarily responsible for developing the test item programs and that she had resigned her position; but the information was vague concerning her present role in the company, if any.

Mr. Donnelly was asked if priority lists containing test items were given to RLC staff members prior to all exit tests or just the May exit test. He replied, "I think this is a correct statement." On further questioning he said this answer was yes and that there were 39 programs that should have never been sent to Texarkana as they had some verbatim test items. Mr. Donnelly told the evaluator he was writing his impressions of the situation. At the end of the day he gave that statement to the evaluator, and it is attached to this report.

After the meeting the evaluators met with Carey Byrd of Turnkey, Inc. to discuss strategy for completing the continuation proposal.

## IV. DECISIONS MADE:

1. Need to analyze the test results
2. Need to preview program materials and correlate them with test items
3. Need to obtain information about monies paid to Dorsett and for what purposes
4. Need to complete continuation proposal.

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DATE OF NEXT CONTACT: 6-1-1970

**DORSETT EDUCATIONAL SYSTEMS, INC.**
GOLDSBY AIRPORT • NORMAN, OKLAHOMA • BOX 1226 • 405-321-9899

May 28, 1970

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Mr. Ed Trice, L.E.A.
Dropout Prevention Program
Texarkana, Arkansas 75501

Dear Mr. Trice:

It is with the most intense humiliation and regret that I must report to you that I have found a number of the frames of our teaching machine programs used in the Texarkana project for Reading Comprehension to be, within the constraints of our format, essentially the same as certain test items in the six forms of the tests used to measure learning gains. While we do not believe this invalidates most of the results of the project, we hereby offer to refund a portion of the funds paid or due to us.

Students in the Rapid Learning Centers have learned from three kinds of materials: Tapes, books, and programed workbooks produced by various publishers; silent and sound filmstrips and response programs for the M86 teaching machine from other producers filmstrips; and more than 200 response programs of 40 to 50 frames each produced by this company. Most of the student's time has been spent with the latter.

These programs are divided into the categories of Vocabulary, Reading Comprehension and Mathematics; Approximately 70 of each. In the nearly 3000 frames of Vocabulary programs, about 275 frames in six programs are devoted to words appearing in the tests, but the response choices are not the same as test items except for synonyms.

In the nearly 3000 frames of Mathematics Programs there are few if any frames so close to test items that in this relatively structured subject they could be considered the same. But in the more than 3000 frames of Reading Comprehension programs there are several hundred frames in 33 programs that they must be considered improper. By our audit there are 583 of such frames which not only have essentially verbatim verbal material, and associated printed panels, but the same questions and answers, except that two of the four distractors are omitted.

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Additional frames use test verbal materials but the test items are not disclosed.

Thus there are a total of 8% of the program items, with some associated panels and progress checks, which are closely related to test items in the six instruments. Considering that these programs make up most of the instructional material used at the centers, each test instrument is covered by approximately 1% of the material available for student study.

There can be no possible excuse accepted for such a shocking depature from school practice. While in some kinds of courses for qualification exams such limited prompting may occur, this programing is unacceptable. Naturally, in addition to other penalties, we will replace or refund for all such programs.

In deference to your understandable concern as to the cause for such a serious lapse I must cite the intense pressure under which our programing department was working, the serious slippage of contract support, the considerable deviation from specifications of actual student skills, and this company's limited resources of time, manpower and funds. I personally assure you that except test words in different context I was unaware that there was even a fraction of a percent of the program frames actually duplicating test items, and when recently I found this out I ordered these replaced. Reference is made to the attached Staff Memo. At the time of the February 2 tests only the five test-related vocabulary programs were in use. By the March 2 test nine of the 33 Reading Comprehension programs which are the subject of this letter were apparently available. An additional 16 were released before the April 7 test. Our Director of Programing resigned April 23, (see attachments).

It is essential for the value of a project with otherwise solid achievements to determine insofar as possible the effect of these improper program segments and associated panels on the learning gain scores made in April and May when significant amounts were available. By our record there were fractionally greater gains in April, nearly a fourth of a level. Almost surely the students studied that 1% of the total instructional material which related to the test instrument form randomly assigned to them in May more than 1% of the time, although I was unaware of imposed emphasis.

When I became aware that in the past 60 days there was a material amount of such items sent to Texarkana I requested it be replaced as soon as possible, still without recognition of its extent. This unfortunately was not done promptly due to a management problem, although attachments to this letter show the plans I approved for revision of the program list several weeks ago.

We know that in the next few months improvements in our programs will result in considerable increase in this effectiveness, and will guarantee, should we have the opportunity, to prove that a rapid rate of learning can be sustained without any improper material. Reference is made to attached memos in

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this area.

We wish to demonstrate our profound concern that the enormous pressures of this innovative project have caused a serious lapse by part of our management. Our financial audit recently completed already shows that our company has expended funds of more than twice the amount of the contract in support of it. We offer to take a further loss in this area.

While our review of the instructional materials indicates that about 1% of it was compromised matter covering a given test, the attention given it almost surely exceeded this amount, as did its effect on scores. We therefore suggest that gains be reduced 20% by agreement; or substantially to rates indicated by earlier tests when records show there was little or no such material. We would hope that there would continue to be consideration given to the effect of inadequate entry test procedure. Alternately, we would be willing to base adjustments on the results of the retest of a sample of the assignees on some other instrument, such as Stanford, California, or Metropolitan.

We can hardly express our distress at the seriously improper use of some test related material, and sadly recognize the need for strict surveillance of all staff and procedures involved in an effort in which there are for the first time learning gain related rewards. I profoundly hope that this will not discredit either effective new learning systems or the principal of providing incentives for educational organizations by perforance contracting.

Dorsett Educational Systems, Inc.

Loyd G. Dorsett, President

## STATEMENT WRITTEN BY RESIDENT DIRECTOR, MR. C. J. DONNELLY, AND GIVEN TO INTERNAL EVALUATOR ON MAY 28, 1970

The problem of teaching-the-test has arisen in Texarkana with the discovery that a considerable number of the contractor's programs contain actual test items.

The contractor has been on record, dating back to their basic proposal, as intending to teach to the test. (That is, teach the skills tested for on the ITBS and SRA tests.)

In the case of arithmetic, it was believed that this meant teaching the concept tested for; e.g., dividing one common fraction by another, but changing the numbers used in the test items to some other number. This would be acceptable.

In the case of vocabulary, it was believed that the contractor intended to teach a 3000-word vocabulary, which would include words tested for on the SRA and ITBS instruments, but would not emphasize these words or concentrate them in any particular lesson segment. This would be acceptable.

In the case of reading comprehension, it was believed the contractor intended to give strategies for, and practice in taking the paragraph-comprehension type of test typical of the SRA and ITBS instruments. To the extent that the stories and excerpts used are not identical to those found in the tests, this would be acceptable.

We now find that all the vocabulary words on the five ITBS and SRA forms in use in the project are packed together in five programs, making them susceptible to intensive review just prior to the time of an exit test, which in fact has happened.

We also find that there are numerous programs in both arithmetic and reading comprehension that are lifted verbatim from the test instruments, and that staff and students have been instructed to concentrate on these programs.

We are asked to believe that the contractor intended to "dilute" the vocabulary lessons among some sixty programs during the course of the past school year, and that only the pressures of time and capital limitations kept him from doing so.

We are further asked to believe that the verbatim lifting of test items in the arithmetic and reading comprehension area was done by the contractor's programing group without the knowledge or consent of the chief executive officer of the company, and was called to his attention only three weeks ago by the company's resident director in Texarkana.

We are advised that, presented with this set of circumstances, and the absence of alternative programs of the type desired, it was decided to leave these materials in use in Texarkana for the three weeks remaining in the project, and to replace them during the summer with alternative programs as part of the contractor's ongoing activity in replacing all cut records with pressed records, and all filmstrip-positives with printed film.

It seems to us there are two alternatives. Either we believe the contractor, or we do not.

If we do not, we must assume that the contractor has intentionally sought to subvert the basic concept of a pilot project in which he has a very considerable national stake, going far beyond the relatively modest monies he might earn in Texarkana.

If we do believe him, we must then nevertheless, accuse him of severe mismanagement, not only of the Texarkana project but also of his own corporation.

Given the background of pressure against which the contractor has been working, we choose to believe him. Our next step must be to provide the most stringent safeguards against any possible recurrence of this problem. The contractor has advised us that the programing director guilty of this aforementioned excesses has resigned from the corporation. Further, he has advised us that this year's resident director in Texarkana will be transferred to corporate headquarters and will have as one of his prime responsibilities the full-time management of the Texarkana project.* In the future, we will insist on a preview copy of each program intended for use in the project. We will reserve the right to reject any or all programs which we, in our sole judgement, consider unsuitable for use in the project. With these safeguards in effect, we feel confident that we can maintain an instructional component for the second year of the project that will be completely free of any possible criticism of teaching the test.

*A respected Texarkana-area educator, Dr. Lewis Lemmond, has agreed to serve as the Company's resident director in Texarkana. Moreover,

3. Extent that tests items were taught -

After it was ascertained that test items or closely related test items had been taught, the next question was concerning the effects on the test results. It was also necessary to determine whether test items were in the instructional programs all the time or introduced at different periods of time.

It had been determined that test items or closely related test items were in three sources of instructional material: (a) audio-visual instructional programs, (b) progress checks, and (c) on laminated panels. Upon further investigation it was learned that a list of instructional program numbers was given to the rapid learning center managers prior to each exit (post test) test. The managers were told to extensively review the students on these programs prior to their taking the exit test. This list of program numbers was called the "priority list". The priority list contained programs that had a large number of test items or closely related test items. Thus in effect, the students could be drilled on test items within one to two weeks of the time they took their post test. In addition, it was learned that the laminated panels had on them a large number of test items or closely related test items. These panels were also given to students within a few days of the exit test for extensive review. These practices were verified through interviews with rapid learning center managers and their assistants.

As program materials were reviewed, it was found that

July 20, 1970

instructional programs were made available to the teachers at different times. Thus, earlier programs did not contain as many test items or closely related test items as did later programs. An analysis of the "priority list" programs was made to determine when they originated so as to get some idea of when they could have been placed into use with Texarkana, U.S.A., students. The attached list gives the "priority list" program numbers and their origination dates.

July 20, 1970

## PROGRAMS ON PRIORITY LIST

| Origination Date | Program No. | Origination Date | Program No. |
|---|---|---|---|
| 6-11-69 | G-12* | 2-19-70 | RD-13 |
| 6-17-69 | G-14* | 2-20-70 | RD-14 |
| 8-28-69 | VE-16 | 2-21-70 | RE-20 |
| 11-4-69 | VE-17 | 3-3-70 | RD-15** |
| 11-4-69 | VE-18 | 3-3-70 | RD-16 |
| 11-5-69 | VE-19 | 3-5-70 | RD-17 |
| 12-2-69 | N-1* | 3-6-70 | RE-16 |
| 12-15-69 | M-1* | 3-16-70 | RD-18 |
| 12-15-69 | M-13* | 3-16-70 | RE-17 |
| 1-20-70 | F-10* | 3-17-70 | VE-15 |
| 1-20-70 | RD-11** | 3-18-70 | F-11* |
| 2-6-70 | RE-10 | 3-18-70 | RD-19 |
| 2-12-70 | RE-11 | 3-20-70 | RD-20 |
| 2-12-70 | RE-12 | 3-20-70 | RE-18 |
| 2-13-70 | RE-13 | 3-23-70 | RC-11 |
| 2-13-70 | RE-14 | 3-25-70 | RC-12 |
| 2-13-70 | RD-12 | 3-27-70 | RC-13 |
| 2-18-70 | RE-15 | 3-27-70 | RE-19 |
| 2-13-70 | P-2* | | |

*Programs which do not appear on priority lists but contain test items or closely related test items.

**Programs on priority lists which do not contain test items or closely related test items.

The origination dates were furnished by contractor to the internal evaluators during the last week in May. They would probably have been available to the students approximately 15 to 30 days after the origination date, according to Dorsett's president. There were four exit test dates: February 2, 1970, when 57 students took post tests; March 2, 1970, when 59 students took post tests; April 7, 1970, when 96 students took post tests; and the last week in May, when 285 students took post tests. Thus, most of the "priority list" programs were available for the last two exit tests, while a smaller number were available for the first two exit test dates. Thus, test items were exposed in all exit tests but in a lesser degree for the first two exit tests. A large percentage of the students took the tests when the largest number of exposed test items were available.

With the use of the priority list programs and the laminated panels, students were reviewed on test items or closely related test item questions just prior to a post test. Thus, it seems that it is not only a question of how many test items or closely related test items were used in the instructional program but "how" these programs were used. The number of times a rapid learning center manager reviewed students on priority programs could not be determined, but in conversations with rapid learning center managers and assistants, along with a cursory review of some individual students' folders, there were indications that students could be reviewed several times on priority programs that contained a large number of test items.

The inclusion in the audio-visual programs, progress checks, and laminated panels of actual or closely related test items and the utilization of these materials in a concentrated manner just prior to an exit testing period are a gross violation of the rationale underlying the normative concept of grade level achievement.

To see if there were some method of analyzing the effects of teaching test items or closely related test items on the test results, consultant help was requested from the Educational Testing Service, Princeton, New Jersey. Dr. Henry Dyer and Mr. William Angoff came to Texarkana, to review the situation. They suggested the following statistical procedures:*

a. The first step in the procedure is to make some judgments about the "sameness" of items that appeared in both the instructional materials and in the exit tests. These we shall call the "exposed" items.

b. The second step is to verify the foregoing judgments by making a statistical analysis to determine how the items identified as "exposed" behave in comparison with items not so identified. If it is found that the exposed items had become easier, then the exit answer sheet for those students will be rescored using only non-exposed items to determine an increment attributable to growth equivalent to the increment that would have been obtained from the full-length test had no items become exposed.

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* See Education Testing Service memorandum in Appendix

c. The third step is to establish the magnitude of the real gains earned by students on the non-exposed items.

The consultants agreed to provide any assistance needed in analyzing the test results.

The first step in determing the effects for teaching test items or closely related test items was to see how many test items or closely related test items were being taught. Dr. Dyer suggested some rules for judging whether items included in the instructional program and items from the test are to be considered the same. These rules were adopted and used in analyzing the instructional materials. The rules are given below.

### Rules for Judging Whether Two Items Are To Be Considered the Same

Two items are to be considered the same if:

1. Their wording is identical in all respects.

Example: A. Which of these is a way to find the circumference in inches of a circle with a 6-inch diameter?

(1) 3 X 3.14 (3) 3 X 3 X 3.14
(2) 6 X 3.14 (4) 2 X 6 X 3.14

B. Which of these is a way to find the circumference in inches of a circle with a 6-inch diameter?

(1) 3 X 3.14 (2) 6 X 3.14 (3) 3 X 3 X 3.14
(4) 2 X 6 X 3.14

(Note change in arrangement of options.)

2. The wording of the stem and the wording of the correct response are identical; the other responses have been changed.

A. Same as above.

B. Which of these is a way to find the circumference of a circle with a 6-inch diameter?

(1) 3.14 X 3 (3) 3 X 2.17
(2) 6 X 3.14 (4) 2 X 6 X 2.1416

3. The correct response is identical and the main sense of the stem has been retained despite a minor change in wording.

A. Same as above.

B. The number of inches in the circumference of a circle with a diameter of 6 inches is:

(1) 6 X 3.14 (3) 3 X 3 X 3.14
(2) 3 X 3.14 (4) 6 X 6 X 3.14

4. The main sense of the whole item has been retained despite the fact that it has been re-stated in the negative.

A. Same as above.

B. The number of inches in the circumference of a circle with a diameter of 6 inches is not:

(1) 6 X 3.1416 (3) 3 X 3 X 3.14
(2) 6 X $\frac{22}{7}$ (4) 2 X 3 X $\frac{22}{7}$

5. The main sense of the stem has been retained despite a minor change in wording; the correct response is identical, but any incorrect option has been changed or omitted.

A. Same as above.

B. The number of inches in the circumference of a circle having a 6-inch diameter can be found by which one of these?

(1) 3 X $\frac{22}{7}$ (2) 6 X 3.14 (3) 3 X 3 X 3.14

6. The item has been changed from a multiple-choice to a true-false format by retaining the stem of the multiple-choice item and incorporating in the stem one of the options (correct or incorrect).

A. Same as above.

B. The number of inches in the circumference of a circle with a 6-inch diameter is 3 X 3 X 3.14:

___TRUE ___ FALSE

The consultants from Educational Testing Service also provided a formula for calculating the percentage of unexposed items that were needed to have a minimum reliability coefficient of .80 for that group of items.* From this percentage figure, the evaluators calculated the minimum number of unexposed items that must be available to be able to develop a possible procedure to use such items as a means of determining achievement gains for the students. The minimum number of unexposed items was calculated for each form and for each grade level of all tests used in the dropout prevention program. The formula is as follows:

FORMULA

$$C = \frac{r_s\ (1 - r_t)}{r_t\ ( - r_s)}$$

$C$ = Percentage of unexposed items

$r_s$ = Reliability coefficient of shortened version of test or sub-test (minimum acceptable is .80).

$r_t$ = Reliability coefficient of full length test or sub-test.

Tables 2 and 3 provide information showing the results of the analysis made of the instructional materials to determine the extent test items had been exposed to students in the teaching process.

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* This formula was derived from the Spearman-Brown Formula.

Table 2. THE EXTENT THAT THE ITEMS ON THE IOWA TESTS OF BASIC SKILLS HAD BEEN EXPOSED TO TEACHING AS INDICATED BY AN ANALYSIS OF THE INSTRUCTIONAL MATERIALS

| Iowa Tests of Basic Skills<br>Sub-tests: | Grade Level | Number of Items in Test | Reliability Coefficient | Percent of Unexposed Items Needed | Number of Exposed Items Found in Audiovisual Programs Only | Number of Exposed Items Found in Laminated Panels Only | Number of Exposed Items Found in Progress Checks Only | TOTAL EXPOSED ITEMS | Number of Unexposed Items Needed | Actual Number of Unexposed Items Available | Can Use To Plot Scores On Items |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Vocabulary | | | | | | | | | | | |
| Form 1 | 7 | 48 | .91 | 40 | 48 | - | - | 48 | 19 | 0 | No |
| Form 2 | 7 | 48 | .91 | 40 | 48 | - | - | 48 | 19 | 0 | No |
| Form 3 | 7 | 48 | .91 | 40 | 48 | - | - | 48 | 19 | 0 | No |
| Form 4 | 7 | 48 | .91 | 40 | 48 | - | - | 48 | 19 | 0 | No |
| Reading Comprehension | | | | | | | | | | | |
| Form 1 | 7 | 78 | .93 | 30 | 0 | 0 | 0 | 0 | 23 | 78 | Yes |
| Form 2 | 7 | 78 | .93 | 30 | 33 | 0 | 0 | 33 | 23 | 45 | Yes |
| Form 3 | 7 | 78 | .93 | 30 | 35 | 0 | 0 | 35 | 23 | 43 | Yes |
| Form 4 | 7 | 78 | .93 | 30 | 50 | 0 | 0 | 50 | 23 | 28 | Yes |
| Arithmetic Concepts | | | | | | | | | | | |
| Form 1 | 7 | 48 | .88 | 55 | 17 | 0 | 0 | 17 | 26 | 31 | Yes |
| Form 2 | 7 | 48 | .88 | 55 | 22 | 0 | 0 | 22 | 26 | 26 | Yes |
| Form 3 | 7 | 48 | .88 | 55 | 23 | 0 | 0 | 23 | 26 | 25 | No |
| Form 4 | 7 | 48 | .88 | 55 | 22 | 0 | 0 | 22 | 26 | 26 | Yes |
| Arithmetic Problem Solving | | | | | | | | | | | |
| Form 1 | 7 | 32 | .79 | 100 | 19 | 0 | 0 | 19 | 32 | 13 | No |
| Form 2 | 7 | 32 | .79 | 100 | 17 | 0 | 0 | 17 | 32 | 15 | No |
| Form 3 | 7 | 32 | .79 | 100 | 19 | 0 | 0 | 19 | 32 | 13 | No |
| Form 4 | 7 | 32 | .79 | 100 | 32 | 0 | 0 | 32 | 32 | 0 | No |

Table 2 Continued

| Iowa Tests of Basic Skills<br>Sub-tests: | Grade Level | Number of Items In Test | Reliability Coefficient | Percent of Unexposed Items Needed | Number of Exposed Items Found In Audiovisual Programs Only | Number of Exposed Items Found In Laminated Panels Only | Number of Exposed Items Found in Progress Checks Only | Total Exposed Items | Number of Unexposed Items Needed | Actual Number Of Unexposed Items Available | Can Use To Plot Scores On Items |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Vocabulary | | | | | | | | | | | |
| Form 1 | 8-9 | 48 | .90 | 44 | 48 | - | - | 48 | 21 | 0 | No |
| Form 2 | 8-9 | 48 | .90 | 44 | 48 | - | - | 48 | 21 | 0 | No |
| Form 3 | 8-9 | 48 | .90 | 44 | 48 | - | - | 48 | 21 | 0 | No |
| Form 4 | 8-9 | 48 | .90 | 44 | 48 | - | - | 48 | 21 | 0 | No |
| Reading Comprehension | | | | | | | | | | | |
| Form 1 | 8-9 | 80 | .93 | 30 | 0 | - | - | 0 | 24 | 80 | Yes |
| Form 2 | 8-9 | 80 | .93 | 30 | 33 | - | - | 33 | 24 | 47 | Yes |
| Form 3 | 8-9 | 80 | .93 | 30 | 35 | - | - | 35 | 24 | 45 | Yes |
| Form 4 | 8-9 | 80 | .93 | 30 | 38 | - | - | 38 | 24 | 42 | Yes |
| Arithmetic Concepts | | | | | | | | | | | |
| Form 1 | 8-9 | 48 | .88 | 55 | 16 | - | - | 16 | 26 | 32 | Yes |
| Form 2 | 8-9 | 48 | .88 | 55 | 22 | - | - | 22 | 26 | 26 | Yes |
| Form 3 | 8-9 | 48 | .88 | 55 | 22 | - | - | 22 | 26 | 26 | Yes |
| Form 4 | 8-9 | 48 | .88 | 55 | 23 | - | - | 23 | 26 | 25 | No |
| Arithmetic Problem Solving | | | | | | | | | | | |
| Form 1 | 8-9 | 34 | .79 | 100 | 21 | - | - | 21 | 34 | 13 | No |
| Form 2 | 8-9 | 34 | .79 | 100 | 24 | - | - | 24 | 34 | 10 | No |
| Form 3 | 8-9 | 34 | .79 | 100 | 25 | - | - | 25 | 34 | 9 | No |
| Form 4 | 8-9 | 34 | .79 | 100 | 34 | - | - | 34 | 34 | 0 | No |

July 20, 1970

Table 3 . THE EXTENT THAT THE ITEMS ON THE SCIENCE RESEARCH ASSOCIATES ACHIEVEMENT TESTS HAD BEEN EXPOSED TO TEACHING AS INDICATED BY AN ANALYSIS OF THE INSTRUCTIONAL MATERIALS

| Science Research Associates, Inc. Achievement Series Sub-tests: | Grade Level | Number of Items in Test | Reliability Coefficient | Percent of Unexposed Items Needed | Number of Exposed Items Found in Audiovisual Programs Only | Number of Exposed Items Found in Laminated Panels Only | Number of Exposed Items Found in Progress Checks Only | Total Exposed Items | Number of Unexposed Items Needed | Actual Number of Unexposed Items Available | Can Use To Plot Scores On Items |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Vocabulary | | | | | | | | | | | |
| Form C | 7 | 46 | .91 | 40 | 38 | - | - | 38 | 18 | 8 | No |
| Form D | 7 | 46 | .92 | 35 | 30 | - | - | 30 | 16 | 16 | Yes |
| Reading Comprehension | | | | | | | | | | | |
| Form C | 7 | 46 | .89 | 49 | 30 | - | - | 30 | 23 | 16 | No |
| Form D | 7 | 46 | .89 | 49 | 30 | - | - | 30 | 23 | 16 | No |
| Arithmetic Reasoning | | | | | | | | | | | |
| Form C | 7 | 43 | .87 | 60 | 32 | - | - | 32 | 26 | 11 | No |
| Form D | 7 | 43 | .85 | 71 | 28 | - | - | 28 | 30 | 15 | No |
| Arithmetic Concepts | | | | | | | | | | | |
| Form C | 7 | 47 | .90 | 44 | - | 9 | - | 9 | 21 | 38 | Yes |
| Form D | 7 | 47 | .88 | 54 | - | 11 | - | 11 | 25 | 36 | Yes |
| Arithmetic Computation | | | | | | | | | | | |
| Form C | 7 | 47 | .93 | 30 | - | 18 | - | 18 | 14 | 29 | Yes |
| Form D | 7 | 47 | .92 | 35 | - | 18 | - | 18 | 16 | 29 | Yes |

Table 3 Continued

| Science Research Associates, Inc. Achievement Series Sub-tests: | Grade Level | Number of Items in Test | Reliability Coefficient | Percent of Unexposed Items Needed | Number of Exposed Items Found in Audiovisual Programs Only | Number of Exposed Items Found in Laminated Panels Only | Number of Exposed Items Found in Progress Checks Only | Total Exposed Items | Number of Unexposed Items Needed | Actual Number of Unexposed Items Available | Can Use To Plot Scores On Items |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Vocabulary | | | | | | | | | | | |
| Form C | 8-9 | 46 | .89 | 49 | 46 | - | - | 46 | 23 | 0 | No |
| Form D | 8-9 | 46 | .90 | 44 | 46 | - | - | 46 | 20 | 0 | No |
| Reading Comprehension | | | | | | | | | | | |
| Form C | 8-9 | 46 | .87 | 60 | 20 | - | - | 20 | 28 | 26 | No |
| Form D | 8-9 | 46 | .87 | 60 | 20 | - | - | 20 | 28 | 26 | No |
| Arithmetic Reasoning | | | | | | | | | | | |
| Form C | 8-9 | 43 | .86 | 65 | 19 | - | - | 19 | 28 | 24 | No |
| Form D | 8-9 | 43 | .78 | 112 | 25 | - | - | 25 | 43 | 18 | No |
| Arithmetic Concepts | | | | | | | | | | | |
| Form C | 8-9 | 47 | .88 | 54 | - | 13 | - | 13 | 25 | 34 | Yes |
| Form D | 8-9 | 47 | .86 | 65 | - | 16 | - | 16 | 31 | 31 | Yes |
| Arithmetic Computation | | | | | | | | | | | |
| Form C | 8-9 | 47 | .92 | 35 | - | 28 | - | 28 | 16 | 19 | Yes |
| Form D | 8-9 | 47 | .90 | 44 | - | 28 | - | 28 | 21 | 19 | No |

The information from the preceding tables shows that approximately three-fifths of the sub-tests contain items that had been exposed to teaching to the extent they were not usable to measure achievement gain.

On the Iowa Tests of Basic Skills there are four sub-tests on each of the forms for each grade level. Of the possible 32 sub-tests for all four forms of the Iowa Tests of Basic Skills, 18 or 56.25 percent of the sub-tests had test items or closely related test items exposed in the teaching process to the extent they are not usable to plot scores on the unexposed items. Tables 4 and 5 provide an information summary concerning the percentage of test items on the Iowa Tests of Basic Skills that had been exposed in the teaching process.

July 20, 1970

Table 4. PERCENTAGE OF TEST ITEMS IN IOWA TESTS OF BASIC SKILLS, GRADE 7, THAT HAD BEEN EXPOSED IN THE TEACHING PROCESS

### VOCABULARY

| Form | No. Items on Test | No. Test Items Exposed | % |
|---|---|---|---|
| 1 | 48 | 48 | 100.00 |
| 2 | 48 | 48 | 100.00 |
| 3 | 48 | 48 | 100.00 |
| 4 | 48 | 48 | 100.00 |
| TOTAL: | 192 | 192 | 100.00 |

### READING COMPREHENSION

| Form | No. Items on Test | No. Test Items Exposed | % |
|---|---|---|---|
| 1 (Pre-Test) | 78 | 0 | 00.00 |
| 2 | 78 | 33 | 42.31 |
| 3 | 78 | 35 | 44.87 |
| 4 | 78 | 50 | 64.10 |
| TOTAL: | 312 | 118 | 37.82 |

### ARITHMETIC CONCEPTS

| Form | No. Items on Test | No. Test Items Exposed | % |
|---|---|---|---|
| 1 | 48 | 17 | 35.41 |
| 2 | 48 | 22 | 45.83 |
| 3 | 48 | 23 | 47.91 |
| 4 | 48 | 22 | 45.83 |
| TOTAL: | 192 | 84 | 43.75 |

### ARITHMETIC PROBLEM SOLVING

| Form | No. Items on Test | No. Test Items Exposed | % |
|---|---|---|---|
| 1 | 32 | 19 | 59.37 |
| 2 | 32 | 17 | 53.12 |
| 3 | 32 | 19 | 59.37 |
| 4 | 32 | 32 | 100.00 |
| TOTAL: | 128 | 87 | 67.97 |

Table 5. PERCENTAGE OF TEST ITEMS in IOWA TESTS OF BASIC SKILLS, GRADES 8-9 THAT HAD BEEN EXPOSED IN THE TEACHING PROCESS

| VOCABULARY | | | | READING COMPREHENSION | | | |
|---|---|---|---|---|---|---|---|
| Form | No. Items on Test | No. Test Items Exposed | % | Form | No. Items on Test | No. Test Items Exposed | % |
| 1 | 48 | 48 | 100.00 | 1 (Pre-Test) | 80 | 0 | 00.00 |
| 2 | 48 | 48 | 100.00 | 2 | 80 | 33 | 41.25 |
| 3 | 48 | 48 | 100.00 | 3 | 80 | 35 | 43.75 |
| 4 | 48 | 48 | 100.00 | 4 | 80 | 38 | 47.50 |
| TOTAL | 192 | 192 | 100.00 | | 320 | 106 | 33.12 |

| ARITHMETIC CONCEPTS | | | | ARITHMETIC PROBLEM SOLVING | | | |
|---|---|---|---|---|---|---|---|
| Form | No. Items on Test | No. Test Items Exposed | % | Form | No. Items on Test | No. Test Items Exposed | % |
| 1 | 48 | 16 | 33.33 | 1 | 34 | 21 | 61.76 |
| 2 | 48 | 22 | 45.83 | 2 | 34 | 24 | 70.58 |
| 3 | 48 | 22 | 45.83 | 3 | 34 | 25 | 73.52 |
| 4 | 48 | 23 | 47.92 | 4 | 34 | 34 | 100.00 |
| TOTAL | 192 | 83 | 43.23 | | 136 | 104 | 76.47 |

July 20, 1970

On the Science Research Associates Achievement Tests, there are five sub-tests on each of the forms for each grade level. Of the possible 20 sub-tests for the two forms of the Science Research Associates Achievement Tests, 12, or 60 percent of the sub-tests had test items or closely related test items exposed in the teaching process to the extent they are not usable to plot scores on the unexposed items. Tables 6 and 7 provide an information summary concerning the percentage of test items on the Science Research Associates Achievement Tests that had been exposed in the teaching process.

July 20, 1970

Table 6. PERCENTAGE OF TEST ITEMS in SCIENCE RESEARCH ASSOCIATES ACHIEVEMENT TESTS, GRADE 7, THAT HAD BEEN EXPOSED IN THE TEACHING PROCESS

VOCABULARY

| Form | No. Items on Test | No. Test Items Exposed | % |
|---|---|---|---|
| C | 46 | 38 | 82.60 |
| D | 46 | 30 | 65.22 |
| TOTAL | 92 | 68 | 73.91 |

READING COMPREHENSION

| Form | No. Items on Test | No. Test Items Exposed | % |
|---|---|---|---|
| C | 46 | 30 | 65.22 |
| D | 46 | 30 | 65.22 |
| TOTAL: | 92 | 60 | 65.22 |

ARITHMETIC REASONING

| Form | No. Items on Test | No. Test Items Exposed | % |
|---|---|---|---|
| C | 43 | 32 | 74.42 |
| D | 43 | 28 | 65.12 |
| TOTAL: | 86 | 60 | 69.77 |

ARITHMETIC CONCEPTS

| Form | No. Items on Test | No. Test Items Exposed | % |
|---|---|---|---|
| C | 47 | 9 | 19.15 |
| D | 47 | 11 | 23.40 |
| TOTAL: | 94 | 20 | 21.28 |

ARITHMETIC COMPUTATIONS

| Form | No. Items on Test | No. Test Items Exposed | % |
|---|---|---|---|
| C | 47 | 18 | 38.30 |
| D | 47 | 18 | 38.30 |
| TOTAL: | 94 | 36 | 38.30 |

July 20, 1970

Table 7. PERCENTAGE OF TEST ITEMS in SCIENCE RESEARCH ASSOCIATES ACHIEVEMENT TESTS, GRADES 8 AND 9, THAT HAD BEEN EXPOSED IN THE TEACHING PROCESS

**VOCABULARY**

| Form | No. Items on Test | No. Test Items Exposed | % |
|---|---|---|---|
| C | 46 | 46 | 100.00 |
| D | 46 | 46 | 100.00 |
| TOTAL: | 92 | 92 | 100.00 |

**READING COMPREHENSION**

| Form | No. Items on Test | No. Test Items Exposed | % |
|---|---|---|---|
| C | 46 | 20 | 43.47 |
| D | 46 | 20 | 43.47 |
| TOTAL: | 92 | 40 | 43.47 |

**ARITHMETIC REASONING**

| Form | No. Items on Test | No. Test Items Exposed | % |
|---|---|---|---|
| C | 43 | 19 | 44.18 |
| D | 43 | 25 | 58.13 |
| TOTAL: | 86 | 44 | 51.16 |

**ARITHMETIC CONCEPTS**

| Form | No. Items on Test | No. Test Items Exposed | % |
|---|---|---|---|
| C | 47 | 13 | 27.65 |
| D | 47 | 16 | 34.04 |
| TOTAL: | 94 | 29 | 30.85 |

**ARITHMETIC COMPUTATIONS**

| Form | No. Items on Test | No. Test Items Exposed | % |
|---|---|---|---|
| C | 47 | 28 | 59.57 |
| D | 47 | 28 | 59.57 |
| TOTAL: | 94 | 56 | 59.57 |

## 4. Summary Statement

The achievement gain made by students as related to the number of hours in the instructional program was to be the basis of payment to the contractor. Achievement gain in reading was intended to be the average of the grade level increases earned by students on the vocabulary and reading comprehension tests. The achievement gain in arithmetic was intended to be calculated by using the total of all the arithmetic sub-tests.

Information presented in Tables 4, 5, 6, and 7 indicates that (a) relatively few sub-tests contained a sufficient number of unexposed items to provide a measuring instrument with a reliability coefficient of .80, (b) the sub-tests that seem to possess a sufficient number of unexposed items are not the same sub-tests on both the Iowa Tests of Basic Skills and the Science Research Associates Achievement Tests, and (c) the sub-tests intended to measure reading and arithmetic gains are not now usable because one or both have been invalidated because of exposure of test items in the teaching process.

Therefore, the teaching of test items or closely related test items has invalidated the test results to the extent they cannot be used as a valid measure of achievement.

## IV. PRODUCT EVALUATION RESULTS

In presenting the evaluation results, a general format will be followed. The objectives being evaluated will be listed, followed by the evaluation information. Where evaluation evidence was not available or was not valid, this will be stated.

### Objective One:

The student in the rapid learning center program will display an increased vocabulary, reading comprehension, and arithmetic knowledge as indicated by scores on the Iowa Tests of Basic Skills or the Science Research Associates Achievement Tests.

Results. Due to the contractor teaching for the test, no valid test results were available.

### Objective Two:

The students in the rapid learning center program will display an increased knowldege of study skills as indicated by scores on the Science Research Associates Study Habits Checklist.

Results. The pretest was administered to students in the rapid learning center program during the week of December 8-12, 1969. The post test was given to rapid learning center students during the first two weeks of May, 1970. To ensure uniformity in administering the Study Habits Checklist and to minimize the effects of deficient reading skills, the test administrator read the test questions aloud to all students. One hundred twenty-six students in the rapid learning center program took both the pre and post tests. The results are presented in Table 8.

Table 8. A COMPARISON OF THE PRE AND POST TEST SCORES OF 126 RAPID LEARNING CENTER STUDENTS ON THE SRA STUDY HABITS CHECKLIST

| | Pretest | Post test | Difference | t |
|---|---|---|---|---|
| Mean | 86.55 | 87.81 | 1.26 | .43* |
| S. D. | 23.35 | 22.56 | | |

* Not significant

The data in Table 8 indicates that the rapid learning center students did not make a statistically significant gain on the Study Habits Checklist. Therefore, objective two was not achieved.

Objective Three:

The students in the rapid learning center program will demonstrate increased application of pronunciation skills as indicated by scores on the Photo Articulation Test.

Results. The pretest was administered to students in the rapid learning center program during the week of December 8-12, 1969. The post test was given to rapid learning center students during the week of May 11-15, 1970. The post tests were given only to those students who had articulation problems as indicated by their pretest scores. To ensure uniformity in administering the Photo Articulation Test, they were administered and scored by certified speech therapists. The test was given on an individual basis to each student. Thirty-seven students in the rapid learning center program were given both the pre and post Photo Articulation Tests. The results are contained in Table 9.

Table 9. A COMPARISON OF THE PRETEST AND POST TEST SCORES OF 37 STUDENTS ON THE PHOTO ARTICULATION TEST

| | Number of Defective Sounds on Total Pretests | Number of Defective Sounds on Total Post Tests | Difference | t |
|---|---|---|---|---|
| Mean | 3.46 | 3.89 | .43 | .65* |
| S. D. | 2.27 | 3.25 | | |

* Not significant

The data in Table 9 indicates that the rapid learning center students did not show a statistically significant improvement on the Photo Articulation Test. Objective three was not achieved.

Objective Four:

The students will display knowledge of the world of work by choosing at least one employment goal that is realistic and achievable as judged by the student's counselor.

Results. When students took the post achievement test, the rapid learning center students were given a questionnaire asking them to identify what jobs they would like to get upon high school graduation. They were asked to rank the jobs in terms of their first, second, and third choice. This information was given to the students' counselors to make a judgment on the feasibility of the choices made by the students, considering the counselors' knowledge of the students' interests, aptitudes, and abilities.

The pressures of time prevented the counselors from providing the ratings of the students' vocational choices to the evaluator. Table 10 presents the only available data concerning the occupational goals selected by students from the rapid learning center program and the counselor's judgment of these goals. The sample is so small it is of questionable value.

Table 10. THE COUNSELORS' RATINGS OF OCCUPATIONAL GOALS SELECTED BY STUDENTS IN THE RAPID LEARNING CENTER PROGRAM

| | Choice I | | Choice II | | Choice III | |
|---|---|---|---|---|---|---|
| Ratings of Goals By Counselors | Number Selecting | Per-cent | Number Selecting | Per-cent | Number Selecting | Per-cent |
| Entirely unrealistic | 5 | 13.2 | 4 | 11.4 | 0 | .0 |
| Possible but unlikely to attain | 5 | 13.2 | 8 | 22.8 | 6 | 19.3 |
| 50-50 chance of attaining | 1 | 2.6 | 1 | 2.9 | 3 | 9.7 |
| Might attain with extra effort | 5 | 13.2 | 2 | 5.8 | 2 | 6.5 |
| Very realistic goal | 22 | 57.8 | 20 | 57.1 | 20 | 64.5 |
| Total | 38 | 100.0 | 35 | 100.0 | 31 | 100.00 |

Objective Five:

The students will demonstrate an increased application of good grooming as indicated by an appearance checklist.

Results. The pretest is a grooming checklist developed by the Region VIII Education Service Center, Magnolia, Arkansas. The homeroom teacher of each student in the rapid learning center program was asked to rate him on the grooming checklist. Due to pressures of instructional duties and lack of time, the teachers were unable to respond to the request for ratings. Therefore, no data are available to evaluate this objective.

Objective Six:

The students will respond positively to the rapid learning center program as indicated by: (1) a feedback questionnaire, (2) decrease in school absenteeism, (3) decrease in dropout frequency, and (4) improving grades in other classes.

Types of Information: A feedback questionnaire to be given students was developed by the Region VIII Education Service Center, Magnolia, Arkansas. School records were used to determine frequency of absences, dropouts, and grade records.

Data Collection Procedures: Students in the rapid learning center program were given a feedback questionnaire to determine their response to their school experiences. This questionnaire was given at the beginning of the program and again at the end of the program. Because of the nature of the program where students could be entered and exited at different times during the school year, only 67 students took both the pre and post questionnaire.

The school records of the students in both the rapid learning center program and an equated group of non-rapid learning center students were analyzed to determine the frequency of absenteeism, the number who dropped out of school, and the grades earned during the school year.

Results: The results of the pre and post questionnaires are found in Table 11. The "always" is the most positive response for Questions Nos. 2, 4, 7, 10, 11, 13, 17, 18, and 19. The "never" is the most positive response for Questions Nos. 1, 3, 5, 6, 8, 9, 12, 14, 15, and 16.

The scores on the feedback questionnaire were quantified by establishing a scoring system where 4 points were given for the most positive response, 3 points for the next, 2 for the next, and 1 point for the least positive response. Table 11 presents information comparing the scores of the students on the pre test with their scores on the post test. It will be noted that the information in Table 11 shows a slight numerical increase in the positive attitude of the students towards the rapid learning center program. This difference is not statistically significant. Further analysis is needed regarding students' opinions, to determine what factors were significant in influencing their responses.

Table 11. AN ANALYSIS OF THE CHANGE IN RESPONSES TOWARD SCHOOL ACTIVITIES INDICATED BY STUDENTS IN THE RAPID LEARNING CENTER*

| Question | Pretest Responses<br>Percentage in Rapid Learning Center Program Checking: | | | | Post Test Responses<br>Percentage in Rapid Learning Center Program Checking: | | | |
|---|---|---|---|---|---|---|---|---|
| | Always | Often | Seldom | Never | Always | Often | Seldom | Never |
| 1. It is hard for me to keep my mind on what goes on in class. | 9.86 | 11.27 | 47.89 | 30.99 | 2.90 | 18.84 | 43.48 | 34.78 |
| 2. My teachers take a personal interest in me. | 33.33 | 28.99 | 23.19 | 14.49 | 26.09 | 33.33 | 27.53 | 13.04 |
| 3. My class work is so dull I have to force myself to do the assignments. | 8.70 | 13.04 | 27.54 | 50.72 | 5.80 | 10.14 | 36.23 | 47.83 |
| 4. I don't worry about taking tests. | 31.88 | 24.64 | 26.09 | 17.39 | 30.43 | 21.74 | 21.74 | 26.09 |
| 5. I get so little out of doing my schoolwork it is not worth the effort. | 14.71 | 7.35 | 25.00 | 52.94 | 1.45 | 11.59 | 28.99 | 57.97 |
| 6. Schoolwork makes me feel like a loser. | 7.25 | 8.70 | 26.09 | 57.97 | 2.90 | 18.84 | 27.53 | 50.72 |
| 7. My lessons are easy to understand. | 24.64 | 40.58 | 28.99 | 5.80 | 29.85 | 37.31 | 26.87 | 5.97 |
| 8. I dislike my courses. | 8.82 | 23.53 | 27.94 | 39.71 | 1.45 | 10.14 | 36.23 | 52.17 |
| 9. The tests I take are unfair. | 5.80 | 2.90 | 20.29 | 71.01 | 0.00 | 7.25 | 30.43 | 62.32 |
| 10. My grades make me feel good. | 22.06 | 26.47 | 27.94 | 23.53 | 18.84 | 31.88 | 26.09 | 23.19 |
| 11. I feel that I need to stay in school. | 64.71 | 17.65 | 5.88 | 11.76 | 64.71 | 17.65 | 11.76 | 5.88 |
| 12. I don't like to ask questions when an assignment is not clear to me. | 30.99 | 26.76 | 21.13 | 21.13 | 17.91 | 25.37 | 23.88 | 32.84 |
| 13. My teachers encourage me to do my best. | 68.12 | 10.14 | 14.49 | 7.25 | 60.87 | 20.29 | 15.94 | 2.90 |
| 14. Teachers always teach the same old way. | 14.49 | 23.19 | 28.99 | 33.33 | 10.29 | 11.76 | 42.65 | 35.29 |
| 15. Classes are too large. | 16.42 | 5.97 | 32.84 | 44.78 | 10.14 | 14.49 | 21.74 | 53.62 |
| 16. There is not enough individual help in class. | 23.19 | 30.43 | 20.29 | 26.09 | 13.24 | 23.53 | 29.41 | 33.82 |
| 17. The classroom is beautiful. | 27.54 | 27.54 | 15.94 | 28.99 | 43.48 | 18.84 | 23.19 | 14.49 |
| 18. I have plenty of chance to talk to the teacher. | 43.48 | 21.74 | 21.74 | 13.04 | 47.69 | 15.38 | 20.00 | 16.92 |
| 19. I like the way my courses are taught. | 41.79 | 26.87 | 20.90 | 10.45 | 49.28 | 24.64 | 15.94 | 10.14 |

*Students were asked to respond to the questionnaire in terms of the Rapid Learning Center Program.

July 20, 1970

Table 12. A COMPARISON OF THE CHANGE IN RESPONSES ON A QUESTIONNAIRE TOWARD SCHOOL ACTIVITIES OF 67 STUDENTS IN THE RAPID LEARNING CENTER PROGRAM

| | Pretest Responses | Post Test Responses | Differences | "t" |
|---|---|---|---|---|
| Mean | 55.71 | 57.86 | 2.15 | 1.46* |
| S.D. | 8.79 | 8.15 | | |

* Not significant

To explore the effects of the rapid learning center program on the school absenteeism of the students, the school attendance records were reviewed. Table 13 contains information concerning the mean number of days that the rapid learning center students could have attended the program, and the mean number of days that they actually attended. The difference shows that the rapid learning center students were absent from school an average of 10.47 days.

Table 13. A COMPARISON OF NUMBER OF POSSIBLE DAYS OF SCHOOL ATTENDANCE WITH ACTUAL NUMBER OF DAYS OF ATTENDANCE FOR 351 RLC STUDENTS

| | Mean |
|---|---|
| Possible Days of Attendance | 79.46 |
| Actual Days of Attendance | 68.99 |
| Difference | 10.47 |

Because the dropout prevention program allowed students to be entered and exited at different intervals, it was difficult to obtain absentee data on a comparable non-rapid learning center group of students.

Data were available concerning the number of days absent for students in the rapid learning center and an equated group of non-rapid learning center students who took the February 2, exit test. Table 14 provides information about the mean number of absences for each group of students. While the students in the rapid learning center have a slightly higher absentee rate, it is not significantly higher. The data on the latter of the tables suggest that the rapid learning center program has not had enough impact to decrease significantly the frequency of school absences.

Table 14. A COMPARISON OF THE FREQUENCY OF ABSENTEEISM FOR STUDENTS IN THE RAPID LEARNING CENTER AND AN EQUATED NON-RAPID LEARNING CENTER GROUP, FEBRUARY 2 EXIT TESTING GROUP

| Group | Number | Mean Number of Absences |
|---|---|---|
| Rapid Learning Center Students | 33 | 6.68 |
| Equated Non-Rapid Learning Center Group of Students | 33 | 5.53 |
| Difference | -- | 1.15 |
| "t" | -- | .833 |

The overall goal of the program is the prevention of dropouts. To determine the effectiveness of the rapid learning center program in the prevention of dropouts, an analysis was made of the number of students dropping out of school from the rapid learning center program and the students from an equated non-rapid learning center group. This information is presented in Table 15. It can be seen from this information that nearly three times as many students dropped out of school from the non-rapid learning center group than dropped out of school from the rapid learning center group. Whether this is a permanent trend can only be determined through a follow-up study.

Table 15. A COMPARISON OF THE NUMBER OF SCHOOL DROPOUTS FOR STUDENTS IN THE RAPID LEARNING CENTER PROGRAM AND STUDENTS IN THE EQUATED NON-RAPID LEARNING CENTER GROUP

| | Rapid Learning Center Group | | | Equated Non-Rapid Learning Center Group | | |
|---|---|---|---|---|---|---|
| School | Total No. in Group | No. of Dropouts | Per-Cent % | Total No. in Group | No. of Dropouts | Per-Cent % |
| Arkansas Senior High | 54 | 5 | 9.25 | 29 | 5 | 17.24 |
| College Hill Junior High | 75 | 7 | 9.33 | 32 | 5 | 15.62 |
| Jefferson Junior High | 78 | 6 | 7.69 | 45 | 6 | 13.33 |
| Liberty Eylau Senior High | 55 | 1 | 1.81 | 59 | 15 | 25.42 |
| Liberty Eylau Junior High | 41 | 0 | .00 | 0 | 0 | .00 |
| Washington Junior High | 48 | 5 | 10.41 | 70 | 11 | 15.71 |
| TOTAL | 351 | 24 | 6.84 | 235 | 42 | 17.87 |

To further analyze the extent to which the rapid learning center program was preventing dropouts, a comparison was made between the frequency of dropouts from the rapid learning center group and the frequency of school dropouts from the entire student population of the participating school districts. This information is found in Table 16, on the following page.

Table 16. A COMPARISON OF THE NUMBER OF SCHOOL DROPOUTS OF STUDENTS IN THE RAPID LEARNING CENTER PROGRAM WITH ALL STUDENTS IN THE PARTICIPATING SCHOOL DISTRICTS (1969-70 SCHOOL YEAR)

| School | Rapid Learning Center Group | | | All Students | | |
|---|---|---|---|---|---|---|
| | Number Enrolled | Number of Dropouts | Percent Dropouts | Number Enrolled | Number of Dropouts | Percent Dropouts |
| Arkansas Senior High School | 54 | 5 | 9.25 | 1,414 | 178 | 12.59 |
| College Hill Jr. High School | 75 | 7 | 9.33 | 530 | 28 | 5.28 |
| Jefferson Avenue Jr. High School | 78 | 6 | 7.69 | 861 | 15 | 1.74 |
| Liberty Eylau Sr. High School | 55 | 1 | 1.81 | 672 | 89 | 13.24 |
| Liberty Eylau Jr. High School | 41 | 0 | .00 | 446 | 26 | 5.83 |
| Washington Jr. High School | 48 | 5 | 10.41 | 417 | 26 | 6.24 |
| Total | 351 | 24 | 6.84 | 4,340 | 362 | 8.34 |

July 20, 1970

It has been previously pointed out that a number of students were enrolled in the rapid learning center program who did not fulfill the entry criteria. An analysis was made of the frequency of the school dropouts of students from the rapid learning center group according to whether they fulfilled or did not fulfill the entry criteria. The entry criteria were two grades or more behind in mathematics and reading achievement, as indicated on standardized test scores, and having an IQ of 75 or higher on an intelligence test. Where test scores were not available on the students, they are classified in the non-criteria group. The data are presented in Table 17 on the following page.

Table 17. AN ANALYSIS OF THE NUMBER OF SCHOOL DROPOUTS FROM THE RAPID LEARNING CENTER GROUP ACCORDING TO WHETHER THEY FULFILLED ENTRY REQUIREMENT

| School | No. in Class | Fulfilled Criteria |  |  | Did Not Fulfill Criteria |  |  |
|---|---|---|---|---|---|---|---|
|  |  | No. | Dropped Out of School | Dropped Out of RLC but in School | No. | Dropped Out of School | Dropped Out of RLC but in School |
| Arkansas Sr. High | 54 | 24 | 0 | 0 | 30 | 5 | 0 |
| College Hill Jr. High | 75 | 35 | 2 | 1 | 40 | 5 | 0 |
| Jefferson Avenue Jr. High | 78 | 16 | 1 | 5 | 62 | 5 | 2 |
| Liberty Eylau Jr. High | 41 | 39 | 0 | 1 | 2 | 0 | 2 |
| Liberty Eylau Sr. High | 55 | 43 | 0 | 0 | 12 | 1 | 2 |
| Washington Jr. High | 48 | 24 | 0 | 0 | 24 | 5 | 0 |
| TOTAL | 351 | 181 | 3 | 7 | 170 | 21 | 6 |

The striking information in the previous table is that there were very few dropouts from the rapid learning center students who fulfilled entry criteria. Less than one percent of the students fell in this group. Information from the previous three tables indicates that the dropout prevention program did reduce the frequency of dropouts and was particularly effective for those students fulfilling the entry criteria.

Because the United States Office of Education requested that the evaluation data be submitted by August 1, 1970, and because of the extra work involved in investigating the effects of the contractor teaching the test, it was not possible to analyze the complete effects of the rapid learning center program on students' grades in other school subjects.

However, first semester grades were available on those students who took the post tests on February 2, 1970. To see if the rapid learning center program had any effect on the students' grades in other school subjects to this time,a comparison was made of students' last year's spring semester grades with this year's fall semester grades. This was done for the students in the rapid learning center program and for the students in the equated non-rapid learning center group. This information is found in Table 18, on the following page.

Table 18. AN ANALYSIS OF GRADES EARNED BY STUDENTS IN THE RAPID LEARNING CENTER PROGRAM AND THE EQUATED NON-RAPID LEARNING CENTER GROUP

| | Rapid Learning Center Students | | | | | | | | Non-Rapid Learning Center Students | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | English | | Social Studies | | Natural Science | | Mathematics | | English | | Social Studies | | Natural Science | | Mathematics | |
| Grades | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| | | | | | | | | Second Semester, 1968-69 | | | | | | | | |
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 1 | 3 | 0 | 0 |
| B | 1 | 3 | 1 | 3 | 2 | 6 | 2 | 6 | 6 | 19 | 5 | 16 | 4 | 13 | 4 | 13 |
| C | 6 | 18 | 12 | 37 | 5 | 16 | 8 | 26 | 12 | 39 | 10 | 32 | 11 | 35 | 12 | 40 |
| D | 19 | 59 | 13 | 41 | 18 | 56 | 7 | 23 | 8 | 26 | 10 | 32 | 13 | 41 | 7 | 23 |
| F | 6 | 18 | 6 | 18 | 7 | 22 | 14 | 45 | 5 | 16 | 5 | 16 | 2 | 6 | 7 | 23 |
| | | | | | | | | First Semester, 1969-70 | | | | | | | | |
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 10 | 0 | 0 | 1 | 3 | 0 | 0 |
| B | 1 | 4 | 2 | 8 | 1 | 4 | 1 | 5 | 0 | 0 | 3 | 12 | 0 | 0 | 2 | 7 |
| C | 7 | 28 | 6 | 25 | 3 | 12 | 3 | 16 | 11 | 35 | 7 | 26 | 8 | 30 | 8 | 30 |
| D | 13 | 52 | 9 | 37 | 15 | 57 | 14 | 73 | 13 | 42 | 8 | 31 | 14 | 52 | 11 | 40 |
| F | 4 | 16 | 7 | 30 | 7 | 27 | 1 | 5 | 4 | 13 | 8 | 31 | 4 | 15 | 6 | 22 |

The number of students receiving grades for each subject area is not the same between groups or from semester to semester within a group. The reason for this is that some students did not take one of the four subjects each semester, and some of the students in the rapid learning center program were in that special program in place of their regular English, social studies, mathematics, or natural science classes.

In looking at the information on the previous table, the following can be noted: (1) the English grades of the rapid learning center students appear to be improving while the English grades of the non-rapid learning center group are becoming lower; (2) grades in courses in social studies, natural science, and mathematics are continuing the trend of becoming poorer each semester for both groups.

### Objective Seven:

The project director will display knowledge of the feasibility of a rapid learning center program for all students in the school system as indicated by: (1) feasible cost, (2) available space, (3) appropriateness of rapid learning center material, (4) acceptance by faculty and parents, and (5) permanency of student achievement gains.

Results on Cost Feasibility: The feasibility of the cost for operating a rapid learning center program was to be determined through a cost analysis study. This study was to compare the instructional costs for producing grade level increases of the rapid learning center students with the comparable costs for producing grade level increases for all the students in the participating school districts. Since the test results have been invalidated this study cannot be done. Early in July, 1970, Dorsett submitted to the project director a summary of costs for the dropout prevention program. The president of the company pointed out, in an accompanying letter, that a number of costs were omitted and that data were submitted hurriedly so as to provide some cost information. The following presents the available cost data for operating the rapid learning center program:

## DORSETT EDUCATIONAL SYSTEMS, INCORPORATED

## TEXARKANA PROJECT

| | |
|---|---|
| Direct Instructional Salaries | $ 49,820 |
| Resident Administrative Salaries | 33,755 |
| Staff and Consulting while at Texarkana | 9,612 |
| Direct Support Labor not at Texarkana | 12,651 |
| TOTAL DIRECT LABOR<br>(81% Net Payroll - 19% Burden) | $105,838 |
| Direct Expenses, Materials, Travel, Per Diem | 4,217 |
| TOTAL DIRECT COSTS | $110,055 |
| Allocable General and Administrative, Indirect and and Overhead Costs | 36,302 |
| TOTAL DIRECT AND ALLOCABLE COSTS | $146,357 |
| Indirect Support Labor | $ 26,718 |
| Indirect Support Expenses | 6,411 |
| Indirect Support Overhead | 10,812 |
| TOTAL INDIRECT SUPPORT COSTS | $ 43,941 |

From the above cost data, an estimate can be made of the cost per student and the cost of operating the program per student hourly rate. This information is found in Table 19, on the following page. It should be pointed out that many expenses occur in starting a new project that would not recur in a continuing program. Thus, the cost figures in no way reflect the amount of expenses that would be required in a continuing project. They are presented to provide some limited concept of start-up costs for a new project.

Table 19. AN ANALYSIS OF THE COST OF OPERATING THE RAPID LEARNING CENTER PROGRAM AS DETERMINED ON PER STUDENT AND HOURLY BASIS

| Cost Category | Amount Spent | No. of Students | Cost Per Student | Number of Hours of Instruction | Cost Per Hour |
|---|---|---|---|---|---|
| Total Direct Labor | $105,838.00 | 351 | $301.53 | 24,215 | $4.37 |
| Total Direct Costs | 110,055,00 | 351 | 313.55 | 24,215 | 4.54 |
| Total Direct and Allocable Costs | 146,357.00 | 351 | 416.97 | 24,215 | 6.04 |
| Total Indirect Support Costs | 43,941.00 | 351 | 125.19 | 24,215 | 1.81 |
| Total Costs | $190,298.00 | 351 | 542.16 | 24,215 | 7.86 |

The space study was not conducted as the school districts are involved in the process of total desegregation. Because of this cultural change some school buildings are being phased out of operation. The available space for operation of learning centers in Phase II will primarily be restricted to the mobile units and existing refurbished classrooms.

The curriculum materials used in the rapid learning center program was to be rated by a cadre of teachers from the participating school districts. The internal evaluators developed a form to be used for the ratings. The project director was unable to secure this information and thus, it is not available for analysis.

Results on Acceptance by Faculty and Parents: A feedback questionnaire was given to all teachers in the participating school districts. The results of the questionnaire are found in Tables 20a and 20b. An analysis of the data in these tables suggests that the teachers are familiar with the rapid learning center program and are willing to try it out in the regular classes. Teachers who had students in their classes who were participating in the rapid learning center program felt that such students' attitudes toward school had improved, and they participated more readily in class discussion, but had not improved their grades, study habits, or class attendance. From the viewpoint of the teachers, it appears that the climate for a change is good toward the dropout prevention program, including the use of teacher aides.

Table 20a. THE RESPONSES OF TEACHERS TO A FEEDBACK QUESTIONNAIRE

| Question | | Number Responding Yes | No |
|---|---|---|---|
| 1. | I have heard about the Rapid Learning Center Program | 220 | 0 |
| 2. | I am familiar with the techniques used in the Rapid Learning Center. | 157 | 52 |
| 3. | I have visited the Rapid Learning Center. | 154 | 74 |
| 4. | I have students in my classes who are attending the Rapid Learning Center Program. (If yes, please respond to statements a through f.) | 73 | 108 |
| a. | Since attending the RLC program, the attitude of these students toward school has generally improved. | 44 | 13 |
| b. | Since attending the RLC, these students show greater concern for their personal appearance. | 15 | 35 |
| c. | These students participate more frequently in class discussion than they did before attending the RLC. | 30 | 21 |
| d. | These students have improved their study habits and use their time more efficiently. | 20 | 25 |
| e. | The students in the RLC have improved their grades in my class. | 16 | 30 |
| f. | Class absences of these students have decreased. | 26 | 27 |

Table 20b. THE EXTENT TEACHERS AGREE WITH STATEMENTS CONCERNING THE DROPOUT PREVENTION PROGRAM

| Statement | Number Responding | | | |
|---|---|---|---|---|
| | SA | A | D | SD |
| 1. Techniques used in the Rapid Learning Center will work in the regular classroom. | 27 | 105 | 28 | 5 |
| 2. The teaching machines and programmed instructional materials used in the RLC can be adapted for use in the regular classroom | 41 | 114 | 13 | 0 |
| 3. The Rapid Learning Center program would be feasible for some classes but not all classes. | 28 | 121 | 19 | 2 |
| 4. I believe that with the help of an aide my students would achieve as much as in the RLC program. | 22 | 66 | 41 | 16 |
| 5. An extra attempt should be made to assist the underachiever. | 131 | 59 | 3 | 0 |
| 6. The addition of RLC equipment and materials to the regular classroom would enable me to more effectively teach the average and above average student as well as the underachiever. | 51 | 87 | 20 | 3 |
| 7. The Rapid Learning Center program can be effective in preventing dropouts. | 42 | 124 | 4 | 6 |
| 8. The teacher workload would increase with the addition of teaching machines, record keeping systems, etc. in the regular classroom. | 38 | 96 | 31 | 0 |
| 9. If given an aide to assist with extra clerical tasks, I would be willing to try RLC techniques in the classroom. | 59 | 96 | 8 | 4 |
| 10. The Rapid Learning Center is a good idea, but it should be kept separate from the regular classroom. | 17 | 40 | 82 | 18 |
| 11. I would like to learn more about the Rapid Learning Center program. | 91 | 94 | 9 | 0 |

KEY: SA - Strongly Agree
A - Agree
D - Disagree
SD - Strongly Disagree

July 20, 1970

Parents of students participating in the rapid learning center program were requested to respond to a questionnaire. One hundred and eighteen parents responded. The questionnaire results are found in the following Table 21.

Table 21. AN ANALYSIS OF PARENT RESPONSES ON A QUESTIONNAIRE CONCERNING THE RAPID LEARNING CENTER PROGRAM

| ITEM | | Percentage of Responses |
|---|---|---|
| 1. | Have you heard about this special school program your child has attended? | Yes 97.41% No 2.59% |
| 2. | Have you visited the Rapid Learning Center? | Yes 5.13% No 94.87% |
| | Since my child has been in this special program I feel that he | |
| 3. | (a) enjoys school more than he used to | 69.17% |
| | (b) feels the same as he always did about school | 28.33 |
| | (c) likes school less than he did before | 2.50 |
| 4. | (a) is more willing to go to school in the morning | 52.89% |
| | (b) acts the same as ever about going to school in the morning | 44.63 |
| | (c) is not as willing as before to go to school in the morning | 2.48 |
| 5. | (a) gets better grades than he used to | 67.50% |
| | (b) gets about the same grades as always | 31.67 |
| | (c) gets worse grades than he used to | .83 |
| 6. | (a) talks more about school than before | 57.14% |
| | (b) talks about school about as much as he ever did | 38.66 |
| | (c) talks less about school than he used to | 4.20 |
| 7. | (a) brings more schoolwork home than he did before | 30.25% |
| | (b) brings schoolwork home about as often as before | 60.50 |
| | (c) brings less schoolwork home than he used to | 9.24 |
| 8. | (a) talks more often about what he would like to do when he graduates from high school | 52.10% |
| | (b) talks the same as ever about what he would like to do when he graduates from high school | 45.38 |
| | (c) says less about what he would like to do when he graduates from high school | 2.52 |

TABLE 21: (continued)

| ITEM | | | Percentage of Responses |
|---|---|---|---|
| 9. | (a) | is absent from school less than he used to be | 54.55% |
| | (b) | is absent from school about as often as before | 43.64 |
| | (c) | is absent from school more than before | 1.82 |
| 10. | (a) | likes his special classes better than his regular classes | 68.38% |
| | (b) | likes both kinds of classes the same | 26.50 |
| | (c) | likes his regular classes better than his special classes | 5.13 |
| | | In my opinion, the Rapid Learning Center | |
| 11. | (a) | should become a regular part of the school system | 91.53% |
| | (b) | doesn't make any difference in the school system | 6.78 |
| | (c) | should not be used as a part of the school program | 1.69 |
| 12. | (a) | is worth spending money for | 68.07% |
| | (b) | is worth as much as any other school program | 31.93 |
| | (c) | is a poor way to use the taxpayers' money | .00 |
| 13. | (a) | will help my child graduate from high school | 91.60% |
| | (b) | will have no effect on my child's graduating from high school | 7.56 |
| | (c) | could keep my child from graduating from high school | .84 |
| 14. | (a) | gives my child a better chance for getting ahead in life | 93.28% |
| | (b) | will have no effect on my child's future | 5.88 |
| | (c) | may hinder my child's chances for getting ahead | .84 |

The information from the above table reveals that nearly all the parents are aware of the Rapid Learning Center program, but very few have visited the center. The parents, as a whole, are very much in favor of the program and desire it to become a part of the regular school program. Several of the questions reveal responses that the parents feel the program has had some impact on their childrens' interests and performance in school, but there are still a large percentage of responses indicating that their children are not doing much differently than what they have been doing in the past.

July 20, 1970

Results on Permanency of Student Gains: The permanency achievement test was to be given in October, 1970. Since the test results of Phase I have been invalidated, the permanent gain made by students on achievement tests will need to be considered in the Phase II operation of the dropout prevention program.

## V. RECOMMENDATIONS

1. Because frequent exit testing during Phase I has caused a number of problems, it is recommended that exit tests be given only at the end of 80 hours and 160 hours of instruction. The testing period should be correlated with the end of the semesters. Furthermore, it is recommended that the 160-hour test be correlated with the regular spring testing program of the school district if at all possible. This will allow a continuity with the regular school program.

2. During Phase I no specific guidelines were established concerning when a student would be exited from the rapid learning center program. It is recommended that students in the learning center programs in Phase II be exited into turnkey classes at the time they take the exit tests if they are within one-half grade level of their proper grade level.

3. A number of problems arose because of lack of clarification of terms or guideline procedures. It is recommended that the following definitions and procedures apply for Phase II operations:

    a. A student will be considered a dropout from the program if he or she leaves school or the program and does not reenter. Exceptions to this definition are: (1) if a student graduates from high school, (2) if a student is drafted into military service, (3) if a student is physically or mentally incapacitated (pregnancy excepted) to such an extent that he or she is not able to participate in the project and attend school as certified by a licensed physician, (4) other reasons mutually agreed upon in writing by the project director and the contractor.

b. The starting time for each student will be the first day the student enters the program. Any exception to this must be agreed upon by the project director and the contractor, and any such agreement must be made in writing.

c. The target population for Phase II are students fulfilling the following entry criteria: (1) students in 1969-70 RLC program who did not gain one or more grade levels in reading comprehension or mathematics, (2) seventh-grade students who are two or more grade levels deficient in reading or mathematics and who have an IQ of 75 or higher on an intelligence test, and (3) all students in grades 8-12 who are two or more grade levels deficient in reading or mathematics and who have an IQ score of 75 or higher and who did not participate in the 1969-1970 RLC program. The contractor must be willing to accept the conditions and process by which the target population are selected. If any question exists, it must be reconciled within fifteen days of the student's enrollment in the project according to a negotiation procedure agreed upon by the project director and the contractor.

d. The ending time for the instructional program for each student shall be the date when the student took the performance or exit test. If the student takes more than one exit test, the latter test date shall be considered the ending date.

e. Actual instructional time is the time between the starting time and the ending time minus the amount of time that the student was absent from the instructional program.

4. During the Phase I operation difficulties arose because the contractor submitted names of students to take exit tests late and then he often changed the list just prior to the testing date. It is recommended that the project director establish exit test dates and the contractor shall submit the names of students to take tests to the project evaluator ten (10) days prior to the date of the test. This shall be considered the official test list.

5. It is recommended that the contractor not be allowed to use as a practice test any form of any test that is being used as a post test for payment purposes.

6. It is recommended that the contractor submit monthly reports to the project director. The contents of the reports shall be mutually agreed upon by contractor and project director but must include essential financial and evaluation data required in the request for proposal.

7. During Phase I the information available on students in the program was limited. It is recommended that a more comprehensive information system be developed to provide accurate data on each student in the program. The evaluation design might be used as the basis for determining what data need to be included in the system.

8. Lack of personnel handicapped the Phase I operation. It is recommended that additional personnel be employed to help in giving tests, collecting information, working with turnkey teachers, working with parents, counseling with students, showing program to visitors, preparing dissemination information, writing reports, and generally to help the project director.

9. To provide necessary and timely test results, it is recommended that participating school districts in the program administer the planned standardized tests (achievement and intelligence) on a systematic time schedule. This schedule should establish testing dates that would provide test results when they are needed for identifying the target population, choosing the sample to start in the learning center or turnkey programs, and provide evaluation information.

10. It is recommended that contracts be made with the internal evaluator, external auditor, and management support. The contract shall outline the specific responsibilities and roles of each contractor.

11. To assist in the strengthening of the management procedures, it is recommended that the project director or his designate do the following:

    a. Establish an adequate record system concerning the operation of the dropout prevention program. The record system should include agendas and minutes of meetings, copies of all reports received and given, as well as information about equipment, facilities, personnel, and problems encountered.

b. Delegate and review with all personnel their respective functions and responsibilities. This review should include information concerning the organizational structure, channels of communications, required reports, and lines of authority.

c. Hold regularly scheduled meetings with the staff, the advisory committee, and any other involved groups for the purpose of continuous planning, evaluating, and improving the operational process.

d. Submit monthly reports to the school superintendents in the participating school districts so as to keep them involved and informed of the status of the program.

e. Hold regularly scheduled meetings with the learning center and turnkey teachers to obtain process information and make needed adjustments in the program as problems occur.

f. Plan and schedule parents' activities to involve them in the educational process of their children.

g. Prepare and disseminate public information data to interested groups, both within the participating school districts and outside the project area.

h. Establish a time and day when visitors can be accepted rather than allow them to continuously disrupt the program.

12. To avoid "teaching for the test", it is recommended that the following be written in the contract with the contractor:

a. The contractor shall not include in any of his instructional materials any exercises that are the same as the test items used in the tests that will be used to determine how much the contractor will be paid. The definition of "same" would be determined by the rules outlined on pages 58-59 of this report. Variations in these rules must be mutually agreed upon by contractor and fiscal agent in writing prior to the starting of this project.

b. The internal evaluator shall periodically make a quality control check of the instructional materials in use in the program to determine whether the contractor has fulfilled the requirements listed under "a". The quality control check shall be done once a month and be based on a systematic random sample of the instructional materials.

c. If any single test item, as defined in the rules, is found in the quality control check, the contractor shall be penalized $1,000 for each exposed item.

13. Since the achievement test results for Phase I have been invalidated through teaching to the test, it is recommended that the following alternatives be explored for possible settlement with the contractor:

a. A legal review of the contract might be made to determine the responsibility of the fiscal agent to make payment under existing circumstances.

b. Establish an assumption that contractor shall be paid on the same basis as what it costs the school district to provide instruction. Settlement might then be made on an hourly rate basis or on a per student basis for the instructional services provided by the contractor.

c. Several possibilities have been considered to determine ways of making corrections for the effects of teaching for the test. Within the time and cost constraints imposed upon the internal evaluator for making this evaluation report, the conclusions of this report are that test results are not valid due to the exposure of test items in the instructional material; and thus, a valid correction factor cannot be established. If the school board feels that time and costs are justified to further verify this fact, it is recommended that Step II of the recommendations made by the consultants of Educational Testing Service be explored. If from Step II a sufficient number of test items still remain unexposed, it is recommended that Step III of the consultants' recommendations be explored as the possible basis of payment. The internal evaluators feel that Dr. Dyer's and Mr. Angoff's recommendations are statistically sound.

To provide the above information it is anticipated that it will take at least 30 days of time involving clerical work, statistical work, and perhaps computer time. Even if the analysis is made there is a high degree of probability that not enough unexposed items will be found to apply a correction factor and the correction factor might very well decrease the recorded student gains. Therefore, it is recommended that if alternative "c" is selected as the basis of settlement the contractor be required to pay the costs.

July 20, 1970

14. It is recommended that payment to the contractor for Phase II be based on (a) achievement gains made by students, (b) extent contractor attains performance objectives, and (c) the reductions of dropouts. The achievement gains should be measured by standardized tests; the performance objectives should be measured by developing an instrument using a pool of items submitted by the contractor; and the number of dropouts can be assessed from the school records.

# APPENDIX

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Memorandum for: DR. ANDREW

Subject: Analysis of Data to Determine the Effect of the Dorsett Instructional Program on Educational Growth of Students in Texarkana

Date: July 8, 1970

From: Henry S. Dyer
William H. Angoff

The purpose of this memorandum is to outline a procedure for evaluating the real gains of students who participated in the Texarkana Project after adjusting for the fact that certain items on the exit tests have been compromised by having been used essentially unchanged in the instructional materials.

1. The first step in the procedure is to make some judgments about the "sameness" of items that appeared in both the instructional materials and in the exit tests. These we shall call the "exposed" items.

2. The second step is to verify the foregoing judgments by making a statistical analysis to determine how the items identified as "exposed" behave in comparison with items not so identified. If it is found that the exposed items had become easier, then the exit answer sheet for those students will be rescored using only non-exposed items to determine an increment attributable to growth equivalent to the increment that would have been obtained from the full-length test had no items become exposed.

3. The third step is to establish the magnitude of the real gains earned by the students on the non-exposed items.

## Step I - Identification of Exposed Items

This step involves a comparison of the instructional exercises (i.e., the programs, the progress checks, and the laminated panels with the items on the exit tests (ITBS and SRA) to identify those items judged to be the "same" as the instructional exercises. The rules for judging "sameness" are as follows:

A test item and an instructional exercise are to be considered the same if

(1) Their wording is identical in all respects despite a change in format.

Example: A. Which of these is a way to find the circumference in inches of a circle with a 6-inch diameter?

(1) 3x3.14 (3) 3x3x3.14

(2) 6x3.14 (4) 2x6x3.14

B. Which of these is a way to find the circumference in inches of a circle with a 6-inch diameter?

(1) 3x3.14 (2) 6x3.14 (3) 3x3x3.14

(4) 2x6x3.14

(Note the change in arrangement of options)

(2) The wording of the stem and the wording of the correct option are identical; despite the fact that other options have been changed.

Example: A. Which of these is a way to find the circumference in inches of a circle with a 6-inch diameter?

(1) 3x3.14 (3) 3x3x3.14

(2) 6x3.14 (4) 2x6x3.14

B. Which of these is a way to find the circumference in inches of a circle with a 6-inch diameter?

(1) 3.14x3 (3) 3x2.14

(2) 6x3.14 (4) 2x6x2.1416

(3) The correct option is identical andthe main sense of the stem has been retained despite a minor change in wording.

Example: A. Which of these is a way to find the circumference in inches of a circle with a 6-inch diameter?

(1) 3x3.14
(2) 6x3.14
(3) 3x3x3.14
(4) 2x6x3.14

B. The number of inches in the circumference of a circle with a diameter of 6 inches is

(1) 6x3.14
(2) 3x3.14
(3) 3x3x3.14
(4) 6x6x3.14

(4) The main sense of the whole item has been retained despite the fact that it has been restated in the negative.

Example: A. Which of these is a way to find the circumference in inches of a circle with a 6-inch diameter?

(1) 3x3.14
(2) 6x3.14
(3) 3x3x3.14
(4) 2x6x3.14

B. The number of inches in the circumference of a circle with a diameter of 6 inches is not

(1) 6x3.1416
(2) 6x$\frac{22}{7}$
(3) 3x3x3.14
(4) 2x3x$\frac{22}{7}$

(5) The main sense of the stem has been retained despite a minor change in wording; the correct option is identical; but one or more incorrect options have been changed or omitted.

Example: A. Which of these is a way to find the circumference in inches of a circle with a 6-inch diameter?

(1) 3x3.14
(2) 6x3.14
(3) 3x3x3.14
(4) 2x6x3.14

B. The number of inches in the circumference of a circle having a 6-inch diameter can be found by which one of these?

(1) $3x\frac{22}{7}$ (2) 6x3.14 (3) 3x3x3.14

(6) The item has been changed from a multiple-choice to a true-false item by retaining the stem of the multiple-choice item and incorporating in the stem one of the options (correct or incorrect).

Example: A. Which of these is a way to find the circumference in inches of a circle with a 6-inch diameter?

(1) 3x3.14 (3) 3x3x3.14

(2) 6x3.14 (4) 2x6x3.14

B. The number of inches in the circumference of a circle with a 6-inch diameter is 3x3x3.14

○ True ○ False

C. A circle with a 6-inch diameter has a circumference of 6x3.14 inches.

○ True ○ False

Since the search for exposed items (i.e., items that according to the rules are the "same" in both the instructional materials and the exit tests) would be a stupendous task if all the instructional materials had to be checked against all the items in all forms of the exit tests, if becomes important to determine a cut-off point beyond which no further search is required for the decision whether a given form of a given exit test must be rejected as invalid. This cut-off point can be determined by reference to the reliability of the exit test as reported in the publisher's manual.

In order to make this determination, we have assumed that if the reliability of scores based on the residue of unexposed items of a form of an exit test drops below .80, then the test cannot be used at all to estimate the amount of progress a student has made. On the basis of this assumption, we suggest that the following table be used to decide when it becomes no longer necessary to search the instructional materials for exposed items in order to declare a test form invalid:

Stop Search Table

| If the publisher's reported reliability of the test is: | Then stop the search for exposed items when the per cent of exposed total items on the test form drops below: |
|---|---|
| .95 | 79% |
| .94 | 74% |
| .93 | 70% |
| .92 | 65% |
| .91 | 60% |
| .90 | 56% |
| .89 | 51% |
| .88 | 46% |
| .87 | 40% |
| .86 | 35% |
| .85 | 29% |

This table is based on the formula:

$$c = \frac{r_s(1-r_t)}{r_t(1-r_s)}$$

where c = the proportion of usable items

$r_s$ = the reliability of scores based on a subset of usable items after exposed items have been eliminated

$r_t$ = the reported reliability of the total test

It assumes the requirement that $r_s$ must be at least .80 to provide adequate measurement. (See page 9 below for the formula for $r_s$.)

Step II - Empirical Verification of the Results of Step I

From Step I two groups of test items will have been identified on each exit test form: (1) those ITBS or SRA items judged to be "exposed" items and (2) those items judged "unexposed."

Two groups of students should now be identified for each form of the test: (1) an "experimental" group -- students who went through the Dorsett instructional program; and (2) a "control" group -- students who were equated with the experimentals in the fall of 1969, but who did not go through the Dorsett instructional program.

The item data for students in the "control" group will be obtained from those answer sheets that represent the first time the student has been exposed to a given form of a given exit test. Thus:

(1) If a student took Form X at entry and Form Y at exit, use his answer sheet for Form Y only.

(2) If he took Form X at entry and only Form X at exit, do not use his answer sheets at all in the analysis.

(3) If he took Form X at entry, Form X as a first exit test, and Form Y as the next exit test, use only his answer sheet from Form Y.

(4) If he took Form X at entry, Form Y as his first exit test, and Form Y again as a later exit test, use only his answer sheet from the first administration of Form Y.

(5) If he took Form X at entry, Form Y as his first exit test, and Form Z as a later exit test, use his answer sheets from both Form Y and from Form Z.

(Note that these rules apply only to the "control" group. For the "experimental" group, use all available answer sheets for each form of the test which has been used as an exit test.)

The basic type of analysis will consist of determining a proportion-pass value for each item on every form of the tests used as an exit test, calculated separately for the "experimental" group and the "control" group. Thus, for each item under consideration in, say, Form Y of a test, two proportion-pass values will be calculated, one for each of the two defined groups. Proportion-pass (p-value) is defined as thenumber of students at an exit testing who answer the item correctly, divided by the total number of students in that group. Thus, $p = \frac{N_{pass}}{N_{tot}}$. After each p-value has been calculated, it will be transformed to "delta," which is the normal deviate corresponding to the p-value, expressed with a mean of 13 and standard deviation of 4. Thus, a p-value of .16 becomes a delta of 17.0; a p-value of .84 becomes a delta of 9.0; a p-value of .76 becomes a delta of 10.2; a p-value of .46 becomes a delta of 13.4; etc.

Once the pairs of deltas have been calculated for the two groups, the items should be separated into two types: those classified according to Step I above as "exposed" and those classified as "unexposed." A bivariate graph should then be prepared with the deltas for the control group along the x-axis and the deltas for the experimental group along the y-axis. Plot the "exposed" items on the bivariate paper, and identify the points with x's. Plot the "unexposed" items on the same paper and identify the points with circles (0) to distinguish them from the "exposed" items.

The points on this plot will form one or two elliptical patterns extending from the lower left-hand section of the page to the upper right-hand section. Those items that are relatively difficult for both groups will appear in the upper right section of the plot; items that are relatively easy for both groups will appear in the lower left section of the plot; items that are relatively easy for the control group but relatively difficult for the experimental group will appear in the upper left section; and, finally, items that are relatively difficult for the control group but relatively easy for the experimental group will appear in the lower right section. If the "exposed" items are no easier (relatively speaking) for the experimental group than for the control group, the x-points will be entirely intermixed with the o-points, and it will be concluded that the exposure did not operate to bias the results for the instructed group on the form of that exit test and therefore its scores can be taken at face value.

If, however, the x-points tend to fall lower and to the right of the ellipse described by the o-points, then it can be concluded in respect to that form of that exit test that the special instruction which made use of the exit test items did in fact have a specific differential effect on those items, thereby invalidating them for use in judging whether the instructional program had a general positive educational effect.

Clearly, the items in the two ellipses will very likely not be entirely distinct; there will be some overlap, even if the "exposed" and "unexposed" items are behaving differently. As a general rule, it will be the safer course of action to define all items as suspect except those that are clearly non-suspect. For this purpose, draw a line through the general centroid of all points with a slope equal to the ratio determined by the standard deviation of deltas for the experimental group divided by the standard deviation of the deltas for the control group. The equation for this line is:

$$Y = RX + B,$$

where Y represents the axis for the experimental group,

X represents the axis for the control group,

$R = S.D._{Exp\Delta}/S.D._{Cont\Delta}$

$B = M_{Exp\Delta} - RM_{Cont\Delta}$

Place a ruler parallel to that line and move it toward the upper left of the page until only o-points -- no x-points -- appear above the ruler. Take the items represented by those o-points as the non-suspect, or usable, items for the third step of the analysis.*

Step III - Determination of Rules for Assessing Score Gains

For each form of the tests used at exit, determine the proportion of suspect items and the complementary proportion (c) of usable items. Calculate the reliability of the subset of usable items by the following formula:

$$r_s = \frac{cr_t}{1 + (c-1)r_t},$$

where c is the proportion of the usable items, $r_t$ is the reliability of the full-length test, as reported in the test manual for the grade under consideration, and $r_s$ is the reliability of the given subset of usable items. For example, if the reliability of the full test is .93 and it has been found in the preceding analysis that 2/3 of the items are suspect, with 1/3 non-suspect, the application of the formula given above is as follows:

$$r_s = \frac{(.33)(.93)}{1.00 + (.33-1.00)(.93)}$$

$$r_s = \frac{.31}{1.00-.62} = \frac{.31}{.38}$$

$$r_s = .816$$

---

*An x-item in the upper left section and beyond the general swarm of o-items is one that should be re-examined to see whether there is any question about the judgment that it has been exposed. Similarly a o-item in the lower right section and beyond the general swarm of x-items should be re-examined for the possibility that it was missed in the search for exposed items.

If $r_s$ is below .80 for any subset of items used in an exit test, then there is no way to get an adequate measure of student performance from that subset.

If r is .80 or above for any subset of items, then continue as follows:

(1) Assemble the papers for the control group on that form of the test and rescore those papers for the subset of items. Compute the mean and standard deviation on that subset (s) and on the total test (t).

(2) Determine the constants of the following equation, which allows the conversion of scores on the subset to estimated scores on the full length test.

$$\hat{Y}_t = PY_s + Q,$$

where $\hat{Y}_t$ = estimated raw score on full length test,

$Y_s$ = observed score on subset of non-exposed items,

$P = \sigma_t/\sigma_s$, and $Q = M_t - PM_s$.

$M_t$ = Mean on full-length test,

$\sigma_t$ = S.D. on full-length test,

$M_s$ = Mean on subset,

$\sigma_s$ = S.D. on subset.

If, for example, the equation is

$$\hat{Y}_t = 3.2Y_s + 5.1,$$

and if, for example, a student's score on the subset is 15 ($Y_s = 15$), then $\hat{Y}_t = (3.2)(15) + 5.1 = 48 + 5.1 = 53.1$. When rounded to the nearest whole number, this score is 53. This score is an estimate of what the student's total raw score would have been if none of the items in the exit test had been exposed.

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(It should be noted that the foregoing procedure is based on the assumption that the unexposed items are at least reasonably representative of all the items on the exit test form with respect to content, difficulty level, and level of discrimination. To the degree that this assumption does not hold the procedure is open to some question. It would be desirable to check this assumption to the extent possible by an examination of the test content and by an examination of the distribution of item difficulties of the subset of unexposed items in comparison with the remaining exposed items, as observed in the control group. This check should be made if there is time.)

Using the student's estimated raw score on the exit test, enter the table of grade equivalencies to determine the estimated grade equivalent score on the exit test form. Subtract his entry grade equivalent score from his estimated exit grade equivalent score to get his estimated grade equivalent gain ($G_{est}$).

Inasmuch as $G_{est}$ is derived from a less reliable measure of exit performance than could have been possible had none of the items been exposed, some adjustment for this unreliability should be made in the $G_{est}$. The need for this adjustment makes itself evident in the fact that the correlation of grade level with test performance is lower, and that the slope of the regression line of test performance on grade level is smaller, when the test is less reliable. The result is that a given score difference represents a greater grade equivalent difference than it should. Moreover, because of the lower correlation of grade and test score (due to the lower test reliability), there is greater regression toward the mean. Therefore it would be expected that with a low-scoring group like the one under study here, higher GE estimates would be made for its students than would be made if the test were more reliable, and thereby correlating higher with grade level. However, the adjustment called for here appears to be a highly complex one, and therefore, it will not be attempted. Suffice it to say that the omission of the adjustment tends to overestimate the true grade equivalents for the students on the exit tests and makes it appear that they experienced somewhat greater educational growth than was actually the case.

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